

Epstein

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

ARTHUR G. GIRTON, Executor  
of the Estate of John R.  
Gunsalus,

Plaintiff

v.

THE AMERICAN TOBACCO CO.,  
Defendant

- - -  
: CIVIL ACTION NO. 85-7180  
:  
:  
:  
:  
: Philadelphia, Pennsylvania  
: June 7, 1988  
: 9:45 a.m.  
:

JURY TRIAL - VOLUME ONE  
BEFORE THE HONORABLE NORMA L. SHAPIRO, J.  
UNITED STATES DISTRICT JUDGE

- - -

APPEARANCES:

For the Plaintiff:

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1 going to be the first witness, still has not given us the,  
2 some of the materials he based his opinion on. I will ask  
3 Mr. Sheffler.

4 THE COURT: Could we do that at the luncheon  
5 recess? He won't finish his testimony before lunch, will  
6 he? I'll postpone your cross-examination until after lunch  
7 so you'll have an opportunity to take that up during the  
8 luncheon recess. I don't like to keep the jury waiting any  
9 longer than necessary. I concede it was necessary to have  
10 the discussion about publicity.

11 (End of sidebar discussion.)

12 (Jury in at 11:40 a.m.)

13 THE COURT: Please be seated. As we told you, we  
14 are now going to begin hearing the evidence, the plaintiff's  
15 evidence first. I want to recall for you what I told you in  
16 opening, that the lawyers' openings, just like their  
17 closing, aren't evidence. It's what they intend to prove,  
18 so now is your chance to listen to the evidence and make  
19 your own decision about whether what they tell you they're  
20 going to do is, in fact, done. Thank you.

21 Mr. Johnson, who is your first witness?

22 MR. JOHNSON: I call Dr. Paul Epstein to the stand,  
23 your Honor.

24 THE COURT: Dr. Epstein.

25 DR. PAUL EPSTEIN, Plaintiff's Witness, Sworn.

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1 THE COURT: Please be seated.

2 You can proceed, Mr. Johnson.

3 MR. JOHNSON: Thank you, your Honor.

4 DIRECT EXAMINATION

5 BY MR. JOHNSON:

6 Q Good morning, Dr. Epstein.

7 A Good morning, Mr. Johnson.

8 Q Dr. Epstein, what is your profession?

9 A I'm a physician.

10 Q And where are you currently practicing medicine?

11 A Currently I practice medicine at Graduate Hospital in  
12 Philadelphia.

13 Q And do you have a specialty within the field of  
14 medicine?

15 A Yes, I do.

16 Q What is your specialty?

17 A My specialty is internal medicine and then I have a  
18 subspecialty in the area of pulmonary disease or lung  
19 disease.

20 Q Doctor, tell us a little about yourself. Give us, for  
21 example, your education post high school?

22 A I graduated from Princeton University in 1962 with a  
23 Bachelor's degree in biology and then I went to Tufts  
24 University School of Medicine and graduated with a M.B.  
25 degree in 1966. After that, I did a one-year internship in

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1 internal medicine at the University of Chicago, and that was  
2 followed by two years of residency also in internal medicine  
3 and that was also at the University of Chicago.

4 After that, I came to Philadelphia and spent two  
5 years at the University of Pennsylvania as a subspecialty  
6 fellow, or a subspecialty trainee in the area of lung  
7 disease in the Division of Cardiovascular/Pulmonary Medicine  
8 at the University of Pennsylvania, and that was the end of  
9 my formal training in medicine.

10 Q Following that time at the University of Pennsylvania,  
11 did you enter the service of your country?

12 A Yes, I did.

13 Q And did you serve your country as a physician?

14 A Yes, I did.

15 Q Could you briefly describe what you did then?

16 A Yes, when I entered the Air Force I started as a staff  
17 pulmonary physician as a staff lung doctor and a chief of  
18 the Medical Intensive Care Unit at the largest of the Air  
19 Force hospitals, which was Wilfred-Hall USAF Medical Center  
20 in San Antonio, Texas. While I was at San Antonio, I also  
21 served as an Assistant Clinical Professor of Medicine at the  
22 University of Texas at San Antonio. After I finished my  
23 military service in 1973, I returned to the University of  
24 Pennsylvania as a faculty member, I was an Assistant  
25 Professor of Medicine at the University of Pennsylvania at

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1 that time and I was the Chief of the Clinical Pulmonary  
2 Training Program, which meant that I was in charge of  
3 training all of the physicians who were coming through the  
4 University of Pennsylvania for subspecialty training in lung  
5 diseases and that program, which at that time was two years  
6 long for each individual, was under my control.

7           After spending several years at the University of  
8 Pennsylvania in that particular position and specifically  
9 from 1973 to 1980, I moved to the Graduate Hospital as the  
10 Chief of the Pulmonary Division and I have been there ever  
11 since. My faculty appointment at the University of  
12 Pennsylvania has continued and I have moved from the  
13 original faculty appointment to Associate Professor of  
14 Medicine, then Clinical Associate Professor of Medicine and  
15 most recently Clinical Professor of Medicine.

16 Q Doctor, would you explain what Board Certification is?

17 A Yes, Board Certification means that a physician has  
18 finished the prescribed amount of training in any particular  
19 field, whether it's internal medicine or pulmonary disease  
20 or surgery or whatever, and after he has finished that  
21 amount of training, he can then sit for an examination, in  
22 my case an examination given by the American Board of  
23 Internal Medicine, and that's usually a one or two-day  
24 examination, depending upon the specialty or subspecialty.  
25 And if the individual passes that examination, then he is

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1 so-called Board Certified or he is a diplomate of that  
2 particular Board.

3 Q Now, Doctor, within the field of internal medicine are  
4 there subspecialties that also require Board Certification?

5 A Yes. After someone finishes their training and Board  
6 Certification in the general field of internal medicine,  
7 they can then seek certification in such subspecialties as  
8 pulmonary disease or hematology or cardiovascular diseases  
9 or oncology or hematology, that sort of thing, all of them  
10 have a board certification program that is available to  
11 them.

12 Q Doctor, are you Board Certified in internal medicine?

13 A Yes, I am.

14 Q Are you certified in any subspecialty?

15 A Yes, I am.

16 Q What subspecialty?

17 A I'm Board Certified in the subspecialty of pulmonary  
18 disease.

19 Q And, Doctor, in recent years, after having passed that  
20 examination -- when was that, by the way?

21 A That was in 1972.

22 Q In recent years have you participated in the way in  
23 which that exam is prepared for other physicians?

24 A Yes. For a period of about eight years I was the  
25 Secretary to the Pulmonary Subspecialty Examination

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1 Committee of the American Board of Internal Medicine and in  
2 that position I was one of the people who made up the  
3 examination questions and edited the examination and helped  
4 grade the examination.

5 Q And was this for doctors seeking pulmonary subspecialty  
6 certification throughout the entire United States?

7 A Actually throughout the entire world.

8 Q Now, Doctor, are you currently a member of any  
9 professional or scientific societies?

10 A Yes, I am.

11 Q Would you briefly tell us which ones?

12 A Yes, I'm a Fellow of the American College of Chest,  
13 Physicians which is one of the large, one of the largest of  
14 the lung professional organizations. I am also a member of  
15 the American Thoracic Society, which is also one of the  
16 largest of the lung organizations. I'm a member of the  
17 American Medical Association, the Pennsylvania Medical  
18 Society, the Philadelphia County Medical Society and the  
19 Lanette (ph.) Society, which is a local group of chest  
20 physicians.

21 Q Doctor, at the present time do you also teach other  
22 physicians and medical students?

23 A Yes, actually I am the Course Director for a course at  
24 the University of Pennsylvania. That's a course in clinical  
25 pulmonary disease which I teach and administer at the

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1 Graduate Hospital. In addition to that, I do the teaching  
2 for the University medical students in other portions of the  
3 internal medicine discipline as well.

4 Q Doctor, apart from your teaching responsibilities, do  
5 you actually as well treat patients?

6 A Yes, I do. That's a very important part of my daily  
7 activities.

8 Q And do you actively treat patients with lung diseases?

9 A Yes, I do.

10 Q Do you actively treat patients with lung cancer?

11 A Yes, I do.

12 Q Do you treat patients with emphysema or chronic  
13 obstructive pulmonary disease?

14 A Yes, I do.

15 Q Do you treat patients with asbestosis?

16 A Yes, I do.

17 Q Now, Doctor, I mentioned asbestosis a moment ago. Do  
18 you have any particular interest in the area of occupational  
19 medicine?

20 A Yes, actually for about the last ten or fifteen years,  
21 probably closer to fifteen years, my special interest in the  
22 broader field of lung disease has been in the specific area  
23 of occupationally related lung disorders, so my interest  
24 during that time has turned more and more toward that group  
25 of diseases.

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1 Q And would it be fair to say that among your patients  
2 there is a higher proportion of men than women for that  
3 reason?

4 A Yes, there is a somewhat higher proportion of men than  
5 women.

6 Q And would your practice be largely of those people, say,  
7 over the age of 35?

8 A Largely, that is correct.

9 Q And do you see patients who smoke?

10 A Yes, I do.

11 Q Do they represent a large portion of your clients?

12 A I would say that my practice is made up of approximately  
13 70 to 75 percent of people who are either smokers or former  
14 smokers.

15 Q Doctor --

16 MR. JOHNSON: May I hand the doctor an exhibit that  
17 has been previously marked, your Honor? I had it passed up.

18 THE COURT: Yes, how is it marked?

19 MR. JOHNSON: It is General Exhibit 15.

20 THE COURT: General, did you say? P-15?

21 MR. JOHNSON: Yes, the doctor's curriculum vitae,  
22 your Honor. May I step up?

23 THE COURT: Yes.

24 BY MR. JOHNSON:

25 Q What is it that I have just handed you, Doctor?

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1 A You've handed me a copy of my curriculum vitae, which is  
2 basically the summary of my professional life.

3 Q On Pages 3 through 5, are there a series of abstracts,  
4 original papers, and chapters that you have written or  
5 written with others?

6 A Yes.

7 Q And approximately how many such documents are there?

8 A Well, I haven't counted them, but somewhere over 20, 20  
9 to 25, something like that.

10 Q And does that --

11 A That does not include the abstracts and spelling. That  
12 would include only the original papers and the chapters.

13 Q Now these, these papers and chapters are all in the  
14 field of pulmonary medicine, is that correct?

15 A Yes, that's correct.

16 Q I note on Pages 6 and 7, two pages of lectures by  
17 invitation. Doctor, to whom were these lectures given?

18 A Well, the lectures were given largely to groups of  
19 physicians. Unfortunately, I don't think that that list is  
20 quite up to date. I just stopped listing them after a  
21 while. But they have been given to various groups of  
22 physicians in hospitals and in other settings.

23 Q Doctor, are you yourself an epidemiologist?

24 A No, I am not an epidemiologist.

25 Q Are you familiar with the principles of epidemiology?

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1 A Yes, I am.

2 Q As they apply to pulmonary disease?

3 A Yes.

4 Q And do you participate in the preparation of any  
5 scholarly journals within your field?

6 A Yes, I do.

7 Q Or any one in particular?

8 A Yes, I am Associate Editor of The Annals of Internal  
9 Medicine, which is an international journal of internal  
10 medicine and is probably the second largest journal of  
11 internal medicine in the United States.

12 Q And what are your duties for The Annals of Internal  
13 Medicine?

14 A Well, as Associate Editor my duties are to evaluate  
15 articles that are written by other people and judge them for  
16 their quality and for their scientific accuracy. When I  
17 feel that a paper is scientifically valid and is important,  
18 then I'll send it out to outside reviewers who will give me  
19 their comments and then the paper will come back to me and  
20 we will discuss the manuscript along with the editor of the  
21 journal and decide whether or not the paper should be  
22 published.

23 Q Doctor, does your work and your teaching and your study  
24 require you to become familiar with the interaction, if any,  
25 between occupational-exposed substances and smoking?

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1 A Absolutely.

2 Q And have you previously given testimony and been  
3 accepted as an expert for purposes of expressing those  
4 opinions?

5 A Yes, I have.

6 Q Have you been accepted as an expert in the United States  
7 District Court for the Eastern District of Pennsylvania?

8 A Yes, I have.

9 Q And for the Court of Common Pleas for the City of  
10 Philadelphia?

11 A Yes, I have.

12 Q And in this matter you were referred this matter by my  
13 office, is that correct?

14 A That's correct.

15 Q Do you limit your practice only to cases involving --  
16 for firms that are representing plaintiffs?

17 A No, I do not.

18 Q Could you approximate the breakdown between plaintiffs  
19 and defense?

20 A Well, the statistics keep changing, of course, because I  
21 will evaluate for any group that asks me to look at a  
22 particular problem, but I would say that at the present time  
23 I am evaluating approximately 40 percent of the time for  
24 plaintiffs' firms and approximately 60 percent of the time  
25 for defendants' firms.

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1 Q Doctor, have you also been retained by industrial  
2 corporations to evaluate hazards in the workplace?

3 A Yes, I have.

4 Q And does that include the interaction between any of the  
5 hazards in the workplace and smoking habits?

6 A Absolutely, it does.

7 MR. JOHNSON: Your Honor, I offer Dr. Paul Epstein  
8 as an expert in the field of pulmonary medicine.

9 THE COURT: Do you wish to question on his  
10 qualifications, Mr. Mannino?

11 MR. MANNINO: No, we do not, your Honor.

12 THE COURT: Members of the jury, ordinarily the law  
13 does not permit witnesses to give their opinion, only to  
14 testify to what they saw or do. We make an exception for  
15 people who have certain education or expertise in particular  
16 areas, in this case, the field of pulmonary medicine.  
17 Therefore, Dr. Epstein is permitted to testify as an expert  
18 in the sense he is allowed to express his opinion.

19 You may proceed, Mr. Johnson. You have qualified  
20 him as an expert.

21 MR. JOHNSON: Thank you.

22 BY MR. JOHNSON:

23 Q Doctor, in order to give the jury a framework for what  
24 will proceed we have placed a sketchboard there. Would you  
25 be kind enough to sketch the respiratory system for the

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1 jury?

2 A Yes, I would be happy to.

3 MR. JOHNSON: May the witness step over and do  
4 that, your Honor?

5 THE COURT: He may. That will have to be turned so  
6 the Court can see it, also.

7 THE WITNESS: When we talk about the respiratory  
8 system, we're really talking about not only the lung, but  
9 also the rest of the chest.

10 THE COURT: Excuse me, I'm sorry to interrupt you.

11 THE WITNESS: Yes.

12 THE COURT: But we are on electronic recording and  
13 we can't have strolling testimony.

14 MR. MANNINO: Your Honor, I also would object to a  
15 lecture presentation. Let's have questions and answers.

16 THE COURT: That's also an appropriate objection.  
17 I would ask that we have the microphone placed there and if  
18 you would do what you were asked to do, which was to sketch  
19 the pulmonary system, you could do that without comment, I  
20 think, and then you could identify those parts that you  
21 wish.

22 THE COURT: Well, you may describe what you're  
23 sketching as you sketch it, but you may not give a general  
24 lecture, other than the question and answer form.

25 Now, the other thing we can do if you wish is to

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1 adjourn for lunch and have him do the sketch and then  
2 explain to the jury the parts of it.

3 MR. JOHNSON: I think it's frankly easier if he  
4 does it as he goes along, your Honor.

5 THE COURT: Well, we'll see. You may proceed,  
6 Doctor.

7 THE WITNESS: I'm sketching here the chest and I'm  
8 inside the chest or the lungs. The lungs sit inside of what  
9 I am drawing here, which is the chest wall. And these hash  
10 marks that I have drawn in are what I am representing as the  
11 ribs and the bones of the chest wall.

12 As I'm drawing this, I'd like you to recall that  
13 it's as though you're looking at me, and this would be the  
14 right lung and this would be the left lung over here. On  
15 the left side of the chest I'm also drawing in the muscles  
16 and bones and other structures of the chest wall.

17 In between the two lungs I'm drawing in the heart.  
18 And I'm drawing the major windpipe coming down the throat  
19 into the chest over here and drawing the fact that it splits  
20 up into smaller bronchial tubes as we go further and further  
21 out into the chest or into the lung. And as you can see as  
22 I'm drawing this, it turns out that the main windpipe or  
23 trachea splits up enough times so that it looks as though  
24 these are branches of the tree. If we took the trachea  
25 and turned it upside down it would be the branches of a tree

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1 as the bronchial tubes are distributed and as they split up  
2 into the lung tissue.

3 I'm also drawing at the end of the bronchial tubes  
4 little air sacs. Now, I can't draw those to the size that  
5 are actually present in the lungs because there's something  
6 like 300 million of these little air sacs at the end of the  
7 bronchial tubes, so you'll have to understand that this is a  
8 representation of the air sacs at the end of the bronchial  
9 tubes. And there's another portion of the respiratory  
10 system that I'm going to be drawing in, and that is a muscle  
11 that is placed underneath the lungs and that is the  
12 diaphragm. I won't describe the action of the diaphragm at  
13 the moment, but that may come out later.

14 I'd like also to show you that if this lung is  
15 sitting inside the chest wall, then we really have at least  
16 two separate structures and I want to emphasize that on the  
17 drawing. I want to show you that the lung tissue itself  
18 looks a lot like a piece of foam rubber, even though it's a  
19 sophisticated piece of foam rubber having these tubes  
20 running into the air sacs.

21 And the second portion is the chest wall. And  
22 that -- those two structures are separated. They're  
23 separated and covered on all sides by two layers of very  
24 thin film. It's like a skin that's on top of the lung  
25 tissue itself. And another layer of that skin -- it's not

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1 really skin, it's called something else that lines the  
2 inside of the chest wall. So that these two layers can  
3 slide across one another as the person breathes. So these  
4 are separate structures that slide along one another when  
5 the person breathes. And this layer drawn in orange is  
6 called the pleura. And there are two layers of pleura, that  
7 one that covers the inside of the chest wall and the one  
8 that covers the outside of the lung.

9 Now, there's something else that I need to draw in  
10 here, and that is the blood circulation, and that of course  
11 comes from the heart.

12 Now, the blood fills the heart and as the heart  
13 pumps it pushes blood out through blood vessels, and I'm  
14 going to draw this so that you can see that the blood  
15 vessels are distributed to each and every one of the air  
16 sacs. So here's the blood flowing out by way of my drawing  
17 and supplying each one of the air sacs that I've drawn in.  
18 And that is a representation in pictorial form of the  
19 respiratory system.

20 Q Doctor, using that as a guide, could you show the jury  
21 what happens when we breathe?

22 A Yes. Breathing involves contraction of muscles. And  
23 that muscle that has most effect on the breathing is the  
24 diaphragm. Now, you've noticed that I have drawn the  
25 diaphragm as a curved muscle with the curve being upward.

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1 As the diaphragm contracts, in other words, as we breathe  
2 in, what happens is the muscle shortens. And as that muscle  
3 shortens, it will flatten out. That's the only way that a  
4 sheet of muscle that's bowed upward can shorten is by  
5 contracting and moving downward. So you'll see that during  
6 breathing the domes of the diaphragm move downward and it is  
7 as though a piston is moving downward in that cylinder of  
8 the chest. What happens at that point is that air is sucked  
9 into the air sacs down through the bronchial tubes and into  
10 the air sacs as the piston moves downward. As we breath  
11 out, what happens is that the muscle relaxes. It becomes  
12 curved again and the air is pushed out. And that is called  
13 ventilation.

14 Q Doctor, could you describe, using that as a  
15 representation, of what happens when an individual smokes  
16 cigarettes?

17 A Yes. When an individual smokes cigarettes, there are  
18 certain changes that occur in the bronchial tubes and in the  
19 air sacs. And the reason that those changes occur is that  
20 the cigarette smoke contains chemicals that have an effect  
21 on the lungs. The effect that they have is to produce a  
22 little bit of inflammation. And the inflammation can occur  
23 in the bronchial tubes, and if that happens, then the  
24 irritation will bring out some mucus from the mucus glands  
25 that line the bronchial tube. And sometimes that mucus can

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1 block the free flow of air.

2 But the cigarette smoke has another very important  
3 effect and that is that it can cause inflammation in the air  
4 sacs themselves. Now, when that inflammation occurs, we  
5 handle it like many other inflammations. What happens is  
6 that white blood cells come into the lung, and those white  
7 blood cells then release material that tries to get rid of  
8 the offending chemical.

9 But the problem is that when it tries to get rid of  
10 the offending chemical in the cigarette smoke, it also  
11 dissolves some lung tissue. So that whereas we had nice,  
12 well-formed air sacs on the normal side of the lung, I'm  
13 going to now show you on this side of the drawing what it  
14 would look like with smoking.

15 Smoking on this side and normal on this side. Now,  
16 in the smoker what happens is that there has been  
17 destruction of the separations between the air sacs. And we  
18 have large areas of lung tissue that are damaged because we  
19 have depended on the normal side on having small air sacs  
20 and very good blood flow to each one of the air sacs. On  
21 this side we simply can't have as much blood flow because  
22 we've dissolved some of the tissue in between those air  
23 sacs. So on this side we may have blood flow here and we  
24 may have blood flow here, but it's nothing like the matchup  
25 of air and blood that we see on the normal side. And that

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1 becomes very important in the way the lung works.

2 In other words, if the final product in the use of  
3 the lung is that we're able to take oxygen in from the room  
4 air, breathe it into the lung and get it into the  
5 bloodstream so that we can use the oxygen to run the  
6 metabolic processes of the body, then this damaged side will  
7 be much less efficient in doing that because the matchup of  
8 blood and air isn't as good as it is over on the normal  
9 side.

10 Q Now, Doctor, moving away from cigarettes for a second.  
11 Does -- in normal people do we from time to time take into  
12 our lungs foreign substances?

13 A Yes, we do, every day.

14 Q And does the body have a defense mechanism to fight  
15 against those substances?

16 A Yes.

17 Q Could you describe what the defense mechanism is?

18 A There are actually several defense mechanisms.

19 THE COURT: Excuse me. Are you going to use the  
20 diagram? Do you want the --

21 MR. JOHNSON: Yes.

22 THE WITNESS: The first defense mechanism is as  
23 sophisticated as a wisk broom. And let's just take a look  
24 at one of the bronchial tubes. I'm blowing it up to much  
25 larger than it really is. But in the normal bronchial tube

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1 we have a series of cells on both -- on all sides, and they  
2 line the inner surface of that tube like pavement.

3 On the end of each cell is a little hair. And  
4 there are some cells in the bronchial surface that don't  
5 have cells but they secrete mucus. So the mucus then comes  
6 and covers those little hairs.

7 Now, the mucus is sticky, and when we breathe in  
8 foreign material such as dust, frequently what happens is  
9 that those dust particles will stick onto the mucus and by  
10 coordinated action, those little hairs move back and forth  
11 and flick the mucus out from the lungs into the mouth where  
12 we either spit it out or swallow it. Mostly we swallow the  
13 mucus and don't realize that it's there. So that is one  
14 mechanism protecting our lungs against the invasion by  
15 invading materials. And that's a very common and effective  
16 way of getting rid of material from the lungs.

17 BY MR. JOHNSON:

18 Q What's the scientific name for that, Doctor?

19 A That's called the mucociliary escalator.

20 Q Why is it called an escalator, Doctor?

21 A It's an escalator because it moves things upward, and it  
22 does it in this way.

23 The next way of protecting against invading  
24 substances is when we get down into the air sac, and in the  
25 air sac there are special cells that are nothing more than

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1 garbage collector cells. They go around and they scavage  
2 things, they pick them up and get rid of them. And these I  
3 call macrophage cells. And those are the two main ways of  
4 getting rid of material that enters the lungs every day and  
5 does that in an effective way.

6 Q Now, Doctor, does cigarette smoking have any effect on  
7 the defense mechanisms that you've just talked about?

8 A Yes, it does, it does in several ways. First of all,  
9 what it does is to paralyze the action of the hair cells.  
10 The hair cells just don't work very well in a person who has  
11 a cigarette smoking history. And secondly, it frequently  
12 immobilizes the macrophages.

13 Q What does that mean if a person is being exposed to dust  
14 and is a smoker with regard to the mucociliary escalator?

15 A Well, of course if we have two major mechanisms of  
16 getting rid of material, both of which are affected  
17 adversely by the smoking of cigarettes, then more material  
18 will stay in the lungs and we won't be able to get rid of it  
19 as easily or as effectively.

20 Q Dr. Epstein, are you familiar with the term asbestos?

21 A Yes, I am.

22 Q What is asbestos? Perhaps you could resume your seat at  
23 this point.

24 A Asbestos is actually a group of minerals. And the  
25 minerals have some characteristics in common. First of all,

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1 they're all fibrous in structure. They're little fibers  
2 that you're used to seeing, but these are made out of  
3 inorganic material rather than, for instance, the fibers of  
4 a steak or whatever. So these are mineral fibers.

5 Secondly, they have in common the characteristic  
6 that they are silicates. That is, they contain silicon and  
7 oxygen as well as some other chemicals. But the group of  
8 asbestos materials are called fibrous silicates.

9 Q Are they found naturally?

10 A Yes, they are found virtually all over the world,  
11 although there are some deposits that are more plentiful  
12 than others.

13 Q And, Doctor, how are they used?

14 A They have been used many ways in the past. I think the  
15 most common use for asbestos has been in the development of  
16 insulation materials. It's a very good heat insulator, it's  
17 a good insulator -- certain types of asbestos are very good  
18 in stopping chemical reactions from taking place. So I  
19 think that insulation though is the major use for asbestos  
20 materials.

21 Q Doctor, in your work as a physician in the Delaware  
22 Valley over the last -- the '70s and the '80s, have you had  
23 occasion to become familiar with how asbestos was used  
24 industrial in the Delaware Valley, say in the '40s and '50s?

25 A Yes, absolutely.

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1 Q How have you come to have that knowledge?

2 A Well, part of it of course started when I developed an  
3 interest in occupational lung diseases and simply read a lot  
4 about what was happening in the development of industrial  
5 processes in the Delaware Valley. But after that I started  
6 to examine a lot of patients who had been exposed to  
7 asbestos and to other occupational materials and talked with  
8 them about the conditions under which they worked, talked  
9 with them about their experiences in specific jobs, and in  
10 addition to that, of course, I've been an industrial  
11 consultant at various times and gone out to the plants and  
12 seen those processes taking place. So there are a variety  
13 of ways in which I've become familiar with those uses and  
14 processes involved in the use of asbestos.

15 Q Were any of the people, the patients that you've seen,  
16 exposed to asbestos in shipyards?

17 A Yes, many of them were.

18 Q How would that compare to the other principal industrial  
19 sites?

20 A Well, they are similar in many ways. The fact is that  
21 the people who work in the shipyards particularly on board  
22 ship and in certain areas of the ships in particular would  
23 come into contact with asbestos on a daily basis, and it  
24 didn't matter whether they were actually handling the  
25 material --

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1 MR. MANNINO: Your Honor, I object because we're  
2 getting into very general testimony and the jury may decide  
3 that this applies directly to Mr. Gunsalus, and that hasn't  
4 been shown.

5 MR. JOHNSON: We will move from the general to the  
6 specific shortly, your Honor.

7 THE COURT: Well, so that we can have guidance for  
8 the witness and because of how long the testimony has  
9 continued, the proximity to the luncheon recess, I wonder if  
10 we won't take a recess for lunch now.

11 MR. JOHNSON: That's fine.

12 THE COURT: Members of the jury, will you return at  
13 1:30, please? You'll find that there is a -- I'm sure that  
14 they've instructed you where you can get lunch. There's a  
15 lunchroom in the building, and it's a little longer than the  
16 lunch I usually take, but it will give me a chance to talk  
17 with the lawyers about some matters that have come up.  
18 You're excused until 1:30.

19 I'd like the lawyers to remain.

20 I must say I was concentrating on what to do about  
21 the juror, he was at Sun Shipyard or something -- what  
22 was --

23 MR. MANNINO: I think what he was starting to say  
24 was he has a lot of experience and expertise on what happens  
25 at places. Now, what I'm afraid of is that the next series

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1 of questions will be what happened at Sun Ship and unless he  
2 was there and Mr. Gunsalus there was observing it, it's all  
3 going to be hearsay or if he comes in and says, patients  
4 told me that in that place they had tons of asbestos.

5 THE COURT: Yeah, but an expert can base his  
6 opinion on hearsay. I mean he bases his opinion on books --

7 MR. MANNINO: Mm-hmm.

8 THE COURT: And they're all hearsay. The question  
9 is whether he bases his opinion on what scientists would.  
10 Now, I must say -- what do you call this kind of evidence,  
11 there's a word for it -- anecdotal.

12 MR. JOHNSON: Yes.

13 MR. MANNINO: Mm-hmm.

14 THE COURT: Most scientific experts don't base  
15 their opinions --

16 MR. MANNINO: That's correct.

17 THE COURT: -- on anecdotal evidence. They base it  
18 on case studies with --

19 MR. MANNINO: Controls.

20 THE COURT: -- with controls.

21 MR. JOHNSON: Sure, but most people who work in  
22 occupational medicine have to base their opinions on the  
23 histories that are given to them by the employees and if  
24 there are a hundred employees who -- from Sun Ship who  
25 explained the same history to him, none of whom know Mr.

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1 Gunsalus or who are not Mr. Gunsalus, that's obviously  
2 information that he takes into account in evaluating a  
3 patient.  
4

5 THE COURT: If I may suggest, one of the problems  
6 is we have a long introduction. It would be better if he  
7 would give his opinions and then get to the basis for them.  
8 Then I could judge whether what he's saying has some  
9 relation to the opinions that he may appropriately express  
10 and when you go into this long background about -- I mean  
11 he's qualified as an expert and he's qualified as an expert  
12 in occupational disease and if you want in the most general  
13 way to say he's had patients from shipyards or whatever else  
14 it's -- or he's read about people who work in shipyards and  
15 that sort of thing, I'll permit him to testify. That isn't  
16 a problem. But I do think it's not fair to Mr. Mannino to  
17 have just a long discourse about his whole background and  
18 history but a lot about admissible evidence. Now, is there  
19 any problem in your presentation in doing it that way?

20 MR. JOHNSON: I think -- I will try to take the  
21 Court's instruction and adjust what I'm going to go into

22 THE COURT: I'm not in any way trying to limit you  
23 in showing that he's seen a lot of shipyard people.

24 MR. JOHNSON: Mm-hmm.

25 THE COURT: And that his expert opinion is based on  
that because I think Mr. Gunsalus did work in the shipyard.

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1 MR. JOHNSON: That's right.

2 THE COURT: And whether he -- I mean, I don't know  
3 whether these people he saw worked for the shipyard lifetime  
4 or what, but that's cross-examination.

5 MR. JOHNSON: Sure.

6 THE COURT: Okay.

7 MR. MANNINO: Last but not least, one of the things  
8 he relied on was this, quote, detailed occupational history.  
9 We still don't have that.

10 MR. JOHNSON: I think that that was attached to  
11 Answers to Interrogatories that were given to you years ago.

12 MR. MANNINO: Would you sit down with Bruce  
13 Sheffler right now and tell him --

14 MR. SHEFFLER: There was also a summary of the  
15 medical records that Dr. Epstein relied upon in arriving at  
16 his opinions that we've never seen.

17 THE COURT: Well, Dr. Epstein has his file here,  
18 doesn't he?

19 MR. JOHNSON: I believe he does.

20 THE COURT: Isn't it faster just to get from him  
21 what he relied on so that they can be sure they've seen it.  
22 I mean, maybe it is attached to the Answers to  
23 Interrogatories but what you want is a summary of --

24 MR. MANNINO: He refers in his opinion as something  
25 called a summary of medical records and a summary of

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1 occupational exposures.

2 THE COURT: Where is the doctor? Did he leave?

3 Dr. Epstein, evidently it is alleged that in your  
4 opinion you relied on two summaries, a summary of medical  
5 records and a summary of occupational history. Are you  
6 familiar with those documents?

7 THE WITNESS: Yes.

8 THE COURT: Is it correct that you stated that you  
9 relied on them at some point in your opinion?

10 THE WITNESS: At some point I relied on those, your  
11 Honor, but in addition to that, I have read the entire  
12 deposition testimony --

13 THE COURT: Yeah, but they had the entire  
14 deposition testimony. They're concerned about what they  
15 don't have that you relied on. So the question is, can you  
16 produce this medical summary or this occupational history  
17 that you've just --

18 THE WITNESS: Yes, I can.

19 THE COURT: All right. Would you do that during  
20 the luncheon recess?

21 THE WITNESS: Yes.

22 THE COURT: So they can see it because they're  
23 entitled to have anything you relied on in  
24 cross-examination.

25 THE WITNESS: Certainly.

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1 THE COURT: Okay. Thank you.

2 MR. MANNINO: Thank you, your Honor. 1:30?

3 THE COURT: Please.

4 (End of sidebar discussion.)

5 (Luncheon recess at 12:30 a.m.)

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## AFTERNOON SESSION

3

(1:45 p.m.)

4

THE COURT: Would you bring the jury -- I've spoken  
5 to the juror about the matter we mentioned.

6

Bring in the jury.

7

Where is Dr. Epstein? Do you want to resume the  
8 stand?

9

PAUL EPSTEIN, Resumed.

10

(Jury in, 1:48 p.m.)

11

THE COURT: Please be seated. You'll recall that we  
12 hadn't concluded the direct testimony of Dr. Epstein at the  
13 time of the luncheon recess. You may resume.

14

MR. JOHNSON: Thank you, your Honor.

15

## DIRECT EXAMINATION CONTINUED

16 BY MR. JOHNSON:

17 Q

Doctor, I believe when we broke for lunch we had started  
18 talking about asbestos.

19

Doctor, can occupational exposure to asbestos cause  
20 disease in the human body?

21 A

Yes, it can.

22 Q

What sorts of disease?

23 A

Well, there are actually several types of disease that  
24 asbestos can produce in the body. The first is a disease  
25 that is called asbestosis and basically that involves the

1 formation of scar tissue in the lung. Now, if I may refer  
2 to the drawing that I made earlier, it might be a little  
3 bit more understandable.

4 A Well, there are actually several types

5 MR. JOHNSON: Your Honor, may I have him do that?

6 THE COURT: Certainly.

7 MR. JOHNSON: Thank you.

8 And, your Honor, just to keep -- as your Honor  
9 suggested, I'll have that drawing of the lungs marked P-600,  
10 with the Court's permission.

11 THE COURT: All right.

12 MR. JOHNSON: And the second drawing is P-601.

13 THE COURT: Thank you.

14 THE WITNESS: I think I had better start a new  
15 drawing if I may then.

16 THE COURT: Then it will be P-602.

17 THE WITNESS: Now, the first disease that I'd like  
18 to talk about with regard to asbestos exposure is the  
19 disease called asbestosis which means that the asbestos  
20 fibers have caused the appearance of scar tissue in the  
21 tissue of the lung, that is, between the air sacs so that  
22 this portion of the lung tissue starts to become thicker and  
23 as a matter of fact, the space available for air decreases  
24 because there's more tissue in the walls of the air sacs.

25 Now, that is quite different than the situation



1 that I discussed earlier with regard to  
2 cigarette-associated lung damage --

3 MR. MANNINO: Your Honor, I would object again to a  
4 lecture presentation. He was asked about asbestos-related  
5 disease and now we're talking about cigarette smoking.

6 THE COURT: Dr. Epstein, in order to enable the  
7 defense counsel to object when it's appropriate, you have to  
8 respond to the questions you're asked.

9 THE WITNESS: Fine.

10 THE COURT: So you were asked about the diseases  
11 caused by asbestos and I think you've talked about  
12 asbestosis and described it. Is there some other disease?

13 THE WITNESS: Yes. There are other changes that  
14 occur that are the thickening of the pleura. The pleura, as  
15 you recall, was the lining of the outside of the lung tissue  
16 and the inside of the chest wall and another  
17 asbestos-associated change is thickening of that pleural  
18 membrane.

19 BY MR. JOHNSON:

20 Q Now, Doctor, are either of those two conditions that  
21 you've just described, thickening of the pleural membrane  
22 and asbestosis, are they cancerous changes?

23 A No, they are not.

24 Q Are there cancers caused by exposure to asbestos?

25 A Yes, there are.

1 Q What are they?

2 A There are basically two kinds of cancer that are caused  
3 by asbestos exposure. One is a cancer of the bronchial tube  
4 and that would be what's called bronchogenic carcinoma so  
5 that has to do with the bronchial tube and the other kind of  
6 cancer is the cancer of the pleura and that would be  
7 called mesothelioma.

8 Q Doctor, is there a more common name that the jurors may  
9 have heard for the term bronchogenic carcinoma?

10 A Yes. Cancer of the lung.

11 Q Doctor, are you familiar with the term carcinogen?

12 A Yes, I am.

13 Q What does that mean?

14 A A carcinogen is anything that produces cancer.

15 Q Now, Doctor, does everyone who's exposed to asbestos,  
16 assuming the same quantity, get thickening of the pleura?

17 A No, that does not happen. Some people who are exposed  
18 to asbestos will develop thickening of the pleural but some  
19 who are exposed will not.

20 Q Does everybody who's exposed to asbestos at the same  
21 level get asbestosis?

22 A No.

23 Q Does everybody who's exposed to asbestos at the same  
24 level get lung cancer?

25 A No.

1 Q Does everyone who's exposed to asbestos get  
2 mesothelioma?

3 A No.

4 Q How is it that people react differently to the exposure  
5 to asbestos?

6 A Well, there are several reasons why people would react  
7 differently to the exposure to asbestos. First of all, it  
8 depends to some extent on what else that person has been  
9 exposed to. There are some things that will work together  
10 with the asbestos to produce cancer.

11 Q Such as?

12 A Such as cigarette smoke.

13 Q This working together that you've just alluded to,  
14 what's the scientific term for that?

15 A That's called synergy. That simply means that the  
16 effect of one material isn't added to the effect of another  
17 material but it's multiplied so there's a much greater chance  
18 of developing a disease such as cancer if you're exposed to  
19 two of those carcinogenic materials than if you're exposed  
20 to each one individually.

21 Q Now, Doctor, could you explain that concept as it  
22 relates to cigarette smoking, asbestos and lung cancer?

23 A Yes, I can.

24 Q Would it help if I used the chart that I've shown you?

25 A Yes. That would help a great deal.

1 Q This is --

2 MR. JOHNSON: Your Honor, it's Exhibit P, I  
3 believe, 35 and it's blown up for the purposes of the jury.  
4 May I take it over to the --

5 THE COURT: Yes. Have you seen this exhibit, Mr.  
6 Mannino?

7 MR. MANNINO: I don't believe so, your Honor.

8 THE COURT: Well, would you show it to Mr.  
9 Mannino first?

10 MR. JOHNSON: Sure. He's seen it. I don't think  
11 he's seen the blowup.

12 THE COURT: Well, he's entitled to see the blowup  
13 before the jury does.

14 MR. MANNINO: Thank you.

15 (Discussion off the record.)

16 BY MR. JOHNSON:

17 Q What is it that I've just shown you, Doctor, that's --

18 THE COURT: Excuse me. He asked what he just  
19 showed him.

20 THE WITNESS: This is a chart of the relative risks  
21 of developing lung cancer under various circumstances and it  
22 is a chart that appeared in the Surgeon General's report  
23 from 1985 regarding the health consequences of smoking.

24 BY MR. JOHNSON:

25 Q Doctor, would you take the jury through the chart and

1 explain what each of those columns mean?

2 A Yes. Let me just show you that on this portion of the  
3 graph we have a label that says relative risk of dying of  
4 lung cancer and that's marked off in various increments.  
5 On this portion of the graph we have various situations,  
6 that is, the individual who is a non-smoker and not exposed  
7 to asbestos. There's a certain baseline risk of developing  
8 cancer even if you're not exposed to either the cigarette  
9 smoke or asbestos.

10 The next one -- the next column is an asbestos  
11 worker who has not been a smoker.

12 The next column lists the smokers who are not  
13 exposed to asbestos.

14 And finally, in the last column, there is a column  
15 that says, the smoking asbestos worker. In other words, the  
16 individual who has been exposed both to cigarettes smoke and  
17 to asbestos.

18 Now, what this graph shows is that there is a small  
19 baseline risk of developing lung cancer even if you haven't  
20 been exposed to anything that we know of as being  
21 carcinogenic or cancer-producing.

22 If you're exposed to asbestos and are not a  
23 cigarette smoker, there is an increased risk of developing  
24 lung cancer and that is about five times the risk of the  
25 person who has been exposed to neither of those materials.

1           If the individual is a smoker but hasn't been  
2 exposed to asbestos, the risk is about ten times the  
3 baseline risk.

4           But, if the individual has been both a cigarette  
5 smoker and has been exposed to asbestos, the relative risk  
6 is 50 times or more the risk of the individual who is  
7 exposed to neither.

8           So you can see that if you added the asbestos  
9 exposure and the smoking exposure, those two together would  
10 not be as great as if you were exposed to both of them. So  
11 there is a multiplication of the effect of one against the  
12 effect of the other.

13 Q   Thank you, Doctor. Could you just set that down.

14           Has this principle of synergy with respect to these  
15 two substances been accepted by other authorities in the  
16 medical profession besides yourself?

17 A   Yes, this is a common concept that virtually the entire  
18 medical community accepts.

19 Q   Have those responsible for the public health accepted  
20 it?

21 A   Yes. Absolutely. As a matter of fact the Surgeon  
22 General himself has accepted and published that principle as  
23 being important in the development of cancer.

24 Q   And the 1985 Surgeon General's report that you alluded  
25 to, do you know what topic that discussed?

1 A Yes. The topic discussed was the incidence of cancer in  
2 cigarette smokers.

3 Q Did that also cover exposures in the workplace?

4 A Yes, that -- I think the specific title had to do with  
5 cigarette smoking and the workplace. I don't remember the  
6 exact wording of the title but it's -- that was close.

7 Q All right. Now, Doctor, with respect to both the  
8 asbestos-exposed population occupationally, do you -- are  
9 you aware of approximately how many individuals that  
10 comprises?

11 A Well, there's a range of course. We're talking about  
12 individuals that have been exposed to asbestos over the  
13 course of the last many years and the estimates have ranged  
14 anywhere from five million people to 20 million people who  
15 have been exposed in the United States to asbestos in an  
16 occupational setting.

17 Q Doctor, in your clinical setting, do you see smokers  
18 who've not been exposed to asbestos?

19 A Yes, I do.

20 Q And do you see smokers who have been exposed to  
21 asbestos?

22 A Yes, I do.

23 Q Doctor, would it be fair to say that you do not  
24 recommend smoking to anyone?

25 A That would be a fair statement.

1 Q However, do you give different cautions to each of those  
2 two groups of individuals that you see?

3 A Well, of course, I do. The fact is that the risk of  
4 developing cancer is much greater, about 50 times greater,  
5 in the asbestos-exposed people than it is in the general  
6 population. So when I'm talking to someone who has been  
7 exposed to asbestos, I let them know first of all that their  
8 risk of developing cancer is much higher than just the  
9 average person on the street.

10 Secondly, I let them know that they can have some  
11 effect on their health by the discontinuation of cigarette  
12 smoking and I tell them that there are really very few  
13 things that we can have an effect on in our lives and this  
14 will at least help them decrease their chances of developing  
15 cancer significantly.

16 So there is a difference in the way I approach an  
17 individual who's been exposed to asbestos and the way I  
18 approach someone who has not been.

19 Q And would it matter whether that person was smoking?

20 A Well, of course, I made my comments with regard to  
21 smoking.

22 Q Fine. Doctor, with respect to this case, were you  
23 retained by my office to express an opinion concerning one  
24 John Gunsalus?

25 A Yes, I was.



1 Q And at the conclusion of your review of certain  
2 information, did you prepare a report?

3 A Yes, I did.

4 MR. JOHNSON: Your Honor, may I approach the  
5 witness with P-Gen-15A.

6 THE COURT: P-J-15A?

7 MR. JOHNSON: P-Gen-15A.

8 THE COURT: Could you explain -- you're using Gen?

9 MR. JOHNSON: Gen, general. P-General Exhibit.

10 THE COURT: Do we have other things with 15A.

11 MR. JOHNSON: There are specific exhibits that were  
12 to be introduced against the American Tobacco Company, your  
13 Honor.

14 THE COURT: All right. It will be P-Gen-15A.

15 BY MR. JOHNSON:

16 Q Is this the report you prepared, Doctor?

17 A Yes, it is.

18 MR. MANNINO: Could I ask if that includes the  
19 supplemental report of April 4th?

20 MR. JOHNSON: Yes, it does.

21 BY MR. JOHNSON:

22 Q Doctor, what materials did you review in preparing that  
23 first report of February 8th, 1988?

24 A Well, I reviewed several things. The portions of the  
25 deposition testimony of John R. Gunsalus describing his

1 smoking history and asbestos exposure and after this -- the  
2 report was performed I read the entire deposition testimony.  
3 The employment history of Mr. Gunsalus, a summary of the  
4 medical history of Mr. Gunsalus, records of hospitalization  
5 at the VA Medical Center in Philadelphia dated 4-22-85  
6 through 5-20-85, 3-2-87 through 3-6-87 and 6-6-87 through  
7 6-13-87. Also the discharge summary and portions of the  
8 hospital record regarding admission to Crozer-Chester  
9 Medical Center dated 6-3-87 through 6-5-87.

10           The transcript of deposition testimony of Dr.  
11 Steven Fischkoff. The report of Dr. Robert Steiner dated  
12 9-5-86. The report of Dr. Irwin Stoloff dated 11-11-86.  
13 The death certificate of John R. Gunsalus and the report of  
14 the postmortem examination performed on John R. Gunsalus on  
15 6-15-87 by Dr. William Harrer.

16 Q Did you physically examine Mr. Gunsalus yourself?

17 A No, I did not.

18 Q Now, in reviewing these materials with reference to your  
19 report, what did you note of interest with respect to his  
20 occupational history?

21 A Mr. Gunsalus began working in 1945 for the Greater  
22 Philadelphia Chamber of Commerce as a mailroom clerk. He  
23 continued doing that type of work until 1946.

24           After leaving that job he worked at Fels Naptha as  
25 a stockroom clerk. From 1946 to 1948 he served in the

1 United States Army. Then he served in the United States Air  
2 Force as a flight chief.

3           After leaving the military in 1948, he started  
4 working for the Sun Oil Company as a messman and wiper  
5 aboard ships. And that job involved, that is, the wiping  
6 job involved working in the engine rooms where asbestos-  
7 containing insulation was present.

8           In 1949 he worked for the Atlantic-Richfield  
9 Company also as a messman and wiper with similar duties and  
10 similar exposures to asbestos-containing materials.

11           During the years 1948 and 1949, he worked for Sun  
12 Shipbuilding and Dry Dock Company in the plate shop doing  
13 fabrication work.

14           In 1951 he began working for General Steel Casting  
15 Company as a crane operator. The pipes in that job were  
16 insulated with asbestos-containing material.

17           In 1953 --

18           THE COURT: I'm sorry, I'm not clear -- who  
19 prepared this summary? Is this a history? You didn't see  
20 the man, so it's not a history you got from him.

21           THE WITNESS: That's correct. I received a summary  
22 of his work history.

23           THE COURT: It's not clear to me. You'd better  
24 elucidate in these statements about whether there was  
25 asbestos present, whether this was the witness' opinion or

1 whether he was told that and if so, by whom?

2 MR. JOHNSON: Well, did --

3 THE COURT: Who summarized this history? Is this  
4 prepared by counsel?

5 MR. JOHNSON: Partly it's prepared by counsel and  
6 partly the witness also has access to the deposition of the  
7 client who describes this.

8 THE COURT: I'm not clear. Did you prepare this  
9 summary yourself? Or are you reading something that you  
10 looked at that helped you form an opinion?

11 THE WITNESS: I did two things, your Honor. The  
12 first was I looked at the summary that was prepared by  
13 counsel. The second was that I looked both at the summary  
14 of his deposition, in other words, his own statements about  
15 his --

16 THE COURT: What are you reading from now, which of  
17 those?

18 THE WITNESS: From my report.

19 THE COURT: This is from your report?

20 THE WITNESS: Yes, that's correct.

21 THE COURT: And you're saying that this report was  
22 based on a summary provided to you and statements by the  
23 witness. You'll have to clarify where this comes from  
24 because -- for example, when you make these statements about  
25 the presence of asbestos in his job, is that something you

1 know and you're saying or is it something he told you or  
2 something counsel told you?

3 THE WITNESS: Well, I never spoke to Mr. Gunsalus  
4 myself but I did read his deposition testimony in which he  
5 developed those particular concepts as to what he was  
6 exposed to and where.

7 THE COURT: All right. Well, if it s something  
8 that he told you, of course, I have no objection -- I mean  
9 if it's something that's in his deposition, something he  
10 said, then I'll allow you on cross-examination to bring it  
11 out. I just wanted to be sure you were not interpolating  
12 your own personal experience about what these jobs entailed.  
13 And it wasn't clear to me. Would you --

14 MR. MANNINO: Your Honor, may we approach the  
15 bench for a minute?

16 THE COURT: Yes.

17 (Sidebar discussion as follows:)

18 MR. MANNINO: These were prepared by counsel and  
19 our position at his deposition he said, denying that  
20 asbestos at almost every one of those jobs except Sun Ship.  
21 Now, I can do that by cross-examination, but it's going to  
22 be misleading the jury.

23 THE COURT: Is he going to read this entire report  
24 to the jury?

25 MR. JOHNSON: No. No.

1 THE COURT: Well, this is just not a satisfactory  
2 way of proceeding. I'm not clear when he's expressing his  
3 own view, when he's expressing your view and when he's  
4 purportedly trying to quote what the deposition said.  
5 Because then if Mr. Gunsalus didn't say it in his  
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4 purportedly trying to quote what the deposition said.  
5 Because then if Mr. Gunsalus didn't say it in his  
6 deposition, then the jury can be instructed to the extent  
7 his deposition doesn't support it and they can ignore his  
8 testimony.

9           On the other hand, if you said, I suppose it can  
10 come in subject to my striking the testimony that is in  
11 evidence of everything he says but I would prefer not to do  
12 it. He can't offer an opinion except on what's in the  
13 evidence and I wonder that he's reading so fast that I can't  
14 understand what he's saying half the time and take notes so  
15 I don't have a way of checking later on how it came in.  
16 So--

17           MR. JOHNSON: I will shorten it, your Honor.

18           THE COURT: Do you have -- could you perhaps say  
19 that he relied on the summary and then let the jury hear  
20 what he -- what the witness actually said in his deposition.  
21 He says he's --

22           MR. JOHNSON: Sure. I'll direct myself at this  
23 point to the deposition.

24           (End of sidebar discussion.)

25           THE COURT: Members of the jury, because there's



1 some confusion about the source of Dr. Epstein's information  
2 about the vocational history and what it was, I'm going to  
3 strike that testimony and have Mr. Johnson start over again  
4 and ask him so that we can have it clear. Let me explain t  
5 you that Dr. Epstein can rely on things that he didn't  
6 elicit himself from the witness, that's not a particular  
7 problem. But you're entitled to know the source of his  
8 information because if it came, for example, from Mr.  
9 Gunsalus and then you don't believe Mr. Gunsalus, or you  
10 don't think Mr. Gunsalus said what he interpreted him to have  
11 said, then that would affect how you view the expert  
12 opinion. So it's important that you know the facts on which  
13 Dr. Epstein bases his opinion to help you evaluate the  
14 weight you give to it. So in order to clarify that for  
15 you, we'll start over again with this aspect of the  
16 testimony.

17 MR. JOHNSON: Thank you, your Honor.

18 BY MR. JOHNSON:

19 Q Dr. Epstein, did you review Mr. Gunsalus' deposition  
20 with respect to his exposure to asbestos at Sun Shipyard?

21 A Yes, I did.

22 Q And that was the deposition where Mr. Gunsalus himself  
23 was describing his exposures, is that right?

24 A That is correct.

25 Q Doctor, was this the first time you ever heard a worker

1 from Sun Ship describe the working conditions at Sun Ship  
2 with regard to asbestos exposure?

3 MR. MANNINO: Objection, your Honor, unless it's  
4 related to the same time period that Mr. Gunsalus worked  
5 there.

6 THE COURT: Well, I will allow -- that's overruled.

7 BY MR. JOHNSON:

8 Q You may answer, Doctor.

9 A That was certainly not the first time I had heard or  
10 read the description of the situation of working at Sun  
11 Ship.

12 Q Approximately how many histories of that sort have you  
13 taken yourself or read?

14 A I've taken myself histories of people who have worked at  
15 Sun Ship certainly over a hundred times. I have not kept  
16 count after that.

17 Q And could you briefly describe the exposure history that  
18 Mr. Gunsalus gave you from Sun Ship?

19 A Well, Mr. Gunsalus didn't give me the history.

20 Q That you read from Mr. Gunsalus.

21 A Yes. The history that he stated at his deposition was  
22 that he was -- and let me just check my records if I may for  
23 a moment.

24 He had --

25 THE COURT: Could you say when it is that he was at

1 Sun Ship from your understanding?

2 MR. JOHNSON: Yes, that's what I think the doctor  
3 was about to do.

4 THE WITNESS: Yes, I was. He worked at Sun Ship  
5 from 1948 to 1949 and then again from 1960 to 1962. The  
6 first time was in the plate shop where he did fabrication  
7 work and the second time was as a stage builder. Now, the  
8 jobs on board ship he described as being right beside the  
9 people who were doing other types of work including  
10 insulation work. So that he described the exposure to  
11 asbestos as being one where he was covered with asbestos  
12 dust as people worked around him and would actually come  
13 home, I think he described, looking like a snowman. I don't  
14 know his exact words, but that was the concept that he was  
15 stating in his deposition, that he was totally covered with  
16 the asbestos dust.

17 BY MR. JOHNSON:

18 Q Doctor, is that description consistent with what you  
19 have been told by at least a hundred other Sun Ship workers?

20 A Absolutely. And, I might say, in particular it is a  
21 very common type of statement among the stage builders who  
22 were really working right in that same area.

23 Q Doctor, would you consider that kind of asbestos  
24 exposure as occupational exposure?

25 A Yes, I would.

1 Q And, Doctor, did you also in looking and in preparing  
2 your report consider Mr. Gunsalus' cigarette smoking  
3 history?

4 A Yes, I did.

5 Q And did you obtain that from his deposition as well as  
6 other medical records?

7 A Yes, I did.

8 Q And would you describe what is your understanding his  
9 cigarette smoking history was?

10 A Yes, his smoking history, according to those records,  
11 began at age 10 when he started smoking Lucky Strikes at a  
12 rate of approximately eight cigarettes a day. He said in  
13 his deposition that he became hooked on cigarettes at age 13  
14 and that he smoked continuously at a rate of one and a half  
15 packs a day until the diagnosis of cancer was made, and that  
16 was in 1985. At that time his cigarette smoking increased  
17 to two to two and a half packs a day.

18 Q Doctor, did you also review the medical records of  
19 Veterans Administration Hospitals and any other facilities  
20 where Mr. Gunsalus was treated for his cancer?

21 A Yes, I did.

22 Q Would you describe for the jury the course that Mr.  
23 Gunsalus' cancer took, from when it was first diagnosed  
24 until his death?

25 A Yes, I would. In April 1985 Mr. Gunsalus was admitted

1 to the Veterans Administration Hospital in Philadelphia and  
2 at that time he gave a two-month history of a cough and  
3 sputum production, flem production.

4 Q What's sputum production?

5 A Flem, coughing up mucus and other materials. And that  
6 amount of material was about a cup of flem a day. Now, he  
7 also had increasing shortness of breath when he exerted  
8 himself and he had also noticed weight loss, hoarseness and  
9 pain in the right portion of his chest and back.

10 Q How much weight loss had he reported?

11 A He reported a 55-pound weight loss at that time. The  
12 other thing was that he began to notice that he would wake  
13 up at night absolutely soaked with sweat. He had early  
14 morning headaches that were in the front of his head, he  
15 felt terrible, something that physicians call malaise and  
16 fatigue. When he was admitted to the hospital, the physical  
17 examination done by the doctor showed that he had a tender  
18 area over the spinal column at the twelfth thoracic  
19 vertebra. That's at the bottom of the chest.

20 THE COURT: Could I see counsel at sidebar, please?

21 (Sidebar discussion held on the record as follows:)

22 THE COURT: This is not his treating physician.

23 Could I ask you what opinion he is going to render?

24 MR. JOHNSON: He is going to express the opinion  
25 that this man's lung cancer was caused by his smoking and by

1 asbestos.

2 THE COURT: And is he going to be (inaudible)  
3 to do it? In other words, I don't think there's any  
4 question -- I don't think there's any question he had  
5 cancer.

6 MR. JOHNSON: No.

7 THE COURT: Not even a question of the form of  
8 cancer.

9 MR. JOHNSON: Mm-hmm.

10 THE COURT: Now, if all this helps him to try and  
11 determine cancer, okay. But if he's going to talk about a  
12 relationship between cigarette smoking and asbestos, his  
13 death from cancer, I'm not clear why he has to recite the  
14 entire medical record from the hospital. Now, if he relied  
15 on all this in making that opinion, I guess I'll let him go.  
16 Maybe it's not clear to me and I just can't have you use a  
17 witness to read into the record a hospital record, from some  
18 other hospital where he wasn't the treating physician.  
19 Now, can you tell me if he is going to say that he relied on  
20 all this to --

21 MR. JOHNSON: I'm sure he relied on the medical  
22 records in order to obtain his opinion on it.

23 THE COURT: That's the opinion based on the  
24 statistical correlation between asbestos and cigarette  
25 smoking?

1 MR. JOHNSON: Certainly, that's part of it.

2 THE COURT: Well, again, it's improper. If you  
3 would get to his opinion, and then get the reasons for it,  
4 it would help to understand these issues much better. If  
5 you tell me that the witness, that he relied on this and you  
6 ask him if that's what he relied on and he says yes, okay.  
7 But in general, when you take your expert witness, I'm going  
8 to ask you to ask them their opinion and then get the  
9 reasons, so I can figure out what's going on better than I  
10 can right now.

11 (End of sidebar discussion.)

12 THE COURT: You may proceed. We were up to the  
13 tender spot over the twelfth vertebra.

14 MR. JOHNSON: Thank you.

15 BY MR. JOHNSON:

16 Q Doctor, did you rely on Mr. Gunsalus' medical records in  
17 reaching an opinion as to the cause of his cancer?

18 A I relied not only on his medical records, but also on my  
19 knowledge and experience in this particular field.

20 Q Doctor, would you summarize for us the course that it  
21 took, the course of the cancer?

22 A Basically, what happened was that Mr. Gunsalus was  
23 admitted to the hospital. His chest X-ray was found to be  
24 abnormal. He had an enlargement of an area of the chest,  
25 and may I indicate that on the --

1 Q Please.

2 A -- chart. He had an enlargement on the chest X-ray that  
3 showed that there was a solid mass in the right upper  
4 portion of the chest. And that mass was then investigated,  
5 a bronchoscopy was performed. A bronchoscopy is a procedure  
6 whereby a doctor looks down with a tube into the lung and a  
7 piece of that mass was snipped off with a little pair of  
8 forceps or tweezers, and then it was sent for analysis to  
9 the pathology laboratory.

10 The analysis of that tissue showed that he had  
11 something called oat cell carcinoma. Now, oat cell  
12 carcinoma is cancer of the lung of a very specific type and  
13 that is the type of cancer that was diagnosed at that time.  
14 He also had a variety of other tests which showed that the  
15 cancer had spread to other areas of the chest. The portion  
16 in between the lungs, where I have the heart drawn, but  
17 above the heart, there was spread of the cancer into that  
18 portion of the chest called the mediastinum and there was  
19 also spread of the cancer into his liver and the -- at that  
20 point the Oncology and Radiation Therapy Departments were  
21 called in consultation.

22 Oncology is the study of -- excuse me, is the  
23 treatment of tumors with chemotherapy and --

24 Q Doctor, did Mr. Gunsalus receive radiation therapy?

25 A Yes, he received radiation therapy to his brain because



1 the cancer had also spread to his brain.

2 Q Did he also receive chemotherapy?

3 A Yes, he did.

4 Q And were they successful?

5 A Well, the fact is that he had a partial remission.

6 THE COURT: Doctor, in all of this testimony you  
7 are referring to what the records show rather than your  
8 personal observation, is that correct?

9 THE WITNESS: That is correct. That is correct.  
10 The tumor did regress, it got a little bit smaller, but it  
11 never went away and there was evidence that there were  
12 portions of the tumor that did not respond.

13 BY MR. JOHNSON:

14 Q By the way, Doctor, you mentioned a moment ago that it  
15 was diagnosed as being an oat cell carcinoma. Is that a  
16 form of lung cancer which has been shown to be caused by  
17 cigarette smoking?

18 A Absolutely.

19 Q Is that a form of cancer that has been shown to be  
20 caused by asbestos exposure?

21 A Absolutely.

22 Q Now, how long after that first diagnosis did Mr.  
23 Gunsalus finally die?

24 A Well, the diagnosis was made in April of 1985 and he  
25 died in June of 1987, so that's just over two years.

1 Q Doctor, based on your review of the information that you  
2 have described, do you have an opinion, first, as to the  
3 cause of Mr. Gunsalus' death?

4 A Yes, I do.

5 Q And what is that opinion?

6 A In my professional opinion Mr. Gunsalus died as a result  
7 of oat cell cancer of the lung that had spread to other  
8 portions of his body.

9 Q And, Doctor, in asking you to express an opinion, I will  
10 ask you that you express an opinion now and hence forth to a  
11 reasonable degree of medical certainty. Are you able to do  
12 that?

13 A Yes, I am.

14 Q Have all the opinions you've expressed so far been to a  
15 reasonable degree of medical certainty?

16 A All of the opinions I have expressed so far have been to  
17 a reasonable degree of medical certainty.

18 Q Do you have an opinion as to the cause of the lung  
19 cancer which killed Mr. Gunsalus?

20 A Yes, I do.

21 Q What is that opinion?

22 A In my professional opinion, and my opinion is expressed  
23 within a reasonable degree of medical certainty, Mr.  
24 Gunsalus died as a result of lung cancer which had been  
25 caused by his exposure to cigarette smoke and to asbestos.

1 MR. MANNINO: Your Honor, move to strike unless  
2 it's limited to pre-1966 smoking.

3 MR. JOHNSON: Your Honor, I will be happy to move  
4 into that area, but I believe I can take it in steps.

5 THE COURT: All right. The motion is denied at the  
6 present time.

7 BY MR. JOHNSON:

8 Q Doctor, do you have an opinion to a reasonable degree of  
9 medical certainty whether Mr. Gunsalus' cigarette smoking  
10 prior to 1966 was itself a substantial contributing cause to  
11 his development of lung cancer in 1985 and his death?

12 A Yes, I do have such an opinion.

13 Q What is your opinion?

14 A In my professional opinion, the cigarette smoking that  
15 Mr. Gunsalus had done prior to 1966 was a substantial  
16 contributing factor in the development of his oat cell  
17 carcinoma of the lung and his subsequent death.

18 Q Could you explain the basis for that last opinion you  
19 just expressed?

20 A Yes, there are several factors that go into that. First  
21 of all, cigarette smoking and asbestos exposure are both  
22 known to be synergistic or multiplicative in their effects  
23 of developing lung cancer in humans. Secondly, the  
24 cigarette smoking that Mr. Gunsalus did began at age ten.  
25 It's recognized, first of all, that the likelihood of

1 addiction to cigarette smoke or cigarette smoking is  
2 heightened by the early onset of cigarette smoking.

3 MR. MANNINO: Your Honor, move to strike. He has  
4 not been tendered as a witness for addiction, he's been  
5 tendered as a pulmonary specialist.

6 MR. JOHNSON: I would disagree, your Honor. He is  
7 certainly capable of discussing that concept as it affects  
8 the lungs.

9 THE COURT: He can express an opinion about  
10 cigarette smoking and lung disease, which I believe this is.  
11 You can also argue in cross, if you want, that he is not a  
12 pediatrician, but this is cross-examination.

13 BY MR. JOHNSON:

14 Q Please go ahead, Doctor?

15 A Next, there have been many studies, including studies  
16 that have been quoted in the Surgeon General's report of  
17 both 1962 and 19-- I'm sorry, 1982 and 1985, that have  
18 indicated that the earlier the individual begins smoking,  
19 that is the earlier in his life, the more likely it is for  
20 that individual to develop lung cancer.

21 The next reason that I've come to that opinion is  
22 that the effects of cigarette smoking certainly lessen when  
23 an individual stops smoking. That is, after three to five  
24 years following the cessation of smoking, the relative risk  
25 starts to fall. However, there has ever been evidence that

1 it falls back to zero; the risk is still increased even  
2 after many years after the individual has stopped smoking.

3           So we have the early onset of cigarette smoking  
4 causing both his tendency to become hooked on cigarettes and  
5 his tendency to develop cancer of the lung, secondly we have  
6 the addictive properties of cigarette smoke so that even if  
7 he tried to, he really would have great difficulty in  
8 discontinuation of cigarette smoking, and finally there is  
9 the ongoing increased risk even many years after an  
10 individual has stopped smoking.

11           So with regard to his pre-1966 cigarette smoking, I  
12 must come to the professional opinion that that cigarette  
13 smoking was a substantial contributing factor in the  
14 development of his lung cancer.

15 Q   Now, Dr. Epstein, was the post-1966 cigarette smoking  
16 also a substantial contributing factor?

17 A   Absolutely.

18 Q   Is it possible for you to slice off some period of time  
19 of Mr. Gunsalus' smoking history and say it was not a  
20 substantial contributing factor?

21 A   No, that would be impossible and just medical foolish,  
22 you can't do that.

23 Q   Why? Why not?

24 A   You can't separate a single period of time from a  
25 lifetime of smoking. That just doesn't make any medical

1 sense at all.

2 Q Doctor, are you familiar with the concept of latency as  
3 it applies to cancer?

4 A Yes.

5 Q Would you explain that with regard to lung cancer?

6 A Yes, there are concepts of the development of lung  
7 cancer. They indicate that you can be exposed to a cancer-  
8 producing agent for a period of time, but that doesn't have  
9 the effect of producing a clinical cancer until much later  
10 on. For instance, with regard to smoking it is recognized  
11 by virtually all physicians in the world that a certain  
12 period of time between the onset of cigarette smoking and  
13 the development of the cancer is common and that's usually  
14 around 20 years. The same can be said with regard to the  
15 onset of asbestos exposure and the onset of asbestos-related  
16 cancers. And that period between the initial exposure and  
17 the development of disease is called the latency period. If  
18 we look at a more common situation, for instance --

19 THE COURT: I think we're going to confine  
20 ourselves to asbestos and cigarettes.

21 MR. JOHNSON: Your Honor, may the doctor be  
22 permitted to explain that in --

23 THE COURT: Well, if that's what you're talking  
24 about, asbestos and cigarettes.

25 MR. JOHNSON: Well, I'm talking about latency.

1 THE COURT: I don't want to get into a lot of other  
2 situations. We have sufficient to deal with in this case.  
3 I think the doctor has explained latency. Is there anything  
4 else you need to discuss latency?

5 MR. JOHNSON: There are some common examples in  
diseases  
6 that are much more common than this one that I think everybody  
7 in the room has had.

8 THE COURT: You've heard my ruling.

9 MR. JOHNSON: Oh, okay, fine, your Honor.

10 BY MR. JOHNSON:

11 Q The -- if I understand your answer correctly,  
12 Doctor, would you expect to find lung cancer in an  
13 individual, for example, who had only been smoking ten  
14 years?

15 A No, I would not expect that.

16 Q How about someone who had been exposed ten years ago  
17 occupationally to asbestos?

18 A No, I would not expect that.

19 Q And what's the earliest that you would begin to expect  
20 development of cancer because of exposure to either of these  
21 two substances?

22 A Approximately 20 years.

23 Q Is there an outside limit?

24 A No, there is no outside limit at all. It can be as long  
25 as the person is alive.

1 Q Now, with -- turning to Mr. Gunsalus for a second, do  
2 you have an opinion to a reasonable degree of medical  
3 certainty as to whether his asbestos exposure at Sun  
4 Shipyard was a substantial contributing factor to the  
5 development of his lung cancer?

6 A Yes, I do have such an opinion.

7 Q What is your opinion?

8 A In my professional opinion, his exposure to asbestos at  
9 Sun Ship, it was a substantial contributing fact to the  
10 development of his lung cancer.

11 Q And what is the basis for that opinion?

12 A The basis of that opinion is again multiple factors and  
13 the first is that he described the type of exposure that is  
14 recognized as being an occupational exposure that is a heavy  
15 exposure to asbestos. Secondly, he developed a cancer of  
16 the lung of the type that I would expect with exposure to  
17 asbestos at an appropriate time interval following his  
18 exposure to that material. And, thirdly, I had other  
19 information regarding the finding of asbestos fibers in his  
20 lung tissue that would confirm my previous opinions.

21 Q And what is that last point about finding the fibers in  
22 lung tissue to which you referred, Doctor?

23 A Well, the material from Mr. Gunsalus' lung was sent for  
24 analysis of asbestos fibers and basically the way that is  
25 done is to take a piece of lung tissue and so-called ash it..



1 In other words, you take away all of the stuff except for  
2 the indestructible fibers and then look at that material  
3 that is left after ashing under an electron microscope.  
4 And it was found that Mr. Gunsalus had 196,000 and some odd  
5 asbestos fibers per gram of dry weight tissues. Now, that  
6 is the -- an amount of asbestos that would be perfectly  
7 consistent with the development of an asbestos-related  
8 disease.

9 THE COURT: Dr. Epstein, again you are relying on  
10 some report. This isn't something you did personally, is  
11 it?

12 THE WITNESS: That is correct, I am relying on a  
13 report.

14 THE COURT: Very well.

15 BY MR. JOHNSON:

16 Q That is the report of the structure probe, is that  
17 correct?

18 A That's correct.

19 THE COURT: The what? I didn't hear you.

20 MR. JOHNSON: The structure probe agency.

21 BY MR. JOHNSON:

22 Q And do you in your practice of medicine rely on reports  
23 such as that?

24 A Yes, I do, on a regular basis.

25 Q Now, Doctor, is there in terms of the potential for

1 causing cancer, is there a safe level of asbestos exposure?

2 A No one has ever been able to show a safe level of  
3 exposure to asbestos.

4 MR. JOHNSON: Your Honor, I would like the doctor  
5 to refer to the chart which has been put up against the  
6 wall, since we had some trouble with the...

7 THE COURT: All right.

8 BY MR. JOHNSON:

9 Q Doctor, with respect to the four groups, the four bars  
10 that are there indicating various levels of relative risk,  
11 prior to the development of his cancer, in what category  
12 would you place Mr. Gunsalus?

13 A Well, Mr. Gunsalus would have to be in the group over  
14 here.

15 Q Referring to?

16 A Referring to the smoking asbestos workers, that is the  
17 risk of what's listed here as 53.24 times the baseline risk  
18 of developing lung cancer.

19 Q Thank you, Doctor. Now, Doctor, from the discovery of  
20 cancer in Mr. Gunsalus in 1985, is it possibly possible  
21 medically to look at the size of the cancer in 1985 and  
22 extrapolate from that when that cancer began?

23 A No, that is impossible.

24 Q Why?

25 A Well, first of all the problem is that the cancers

1 change their rate of growth at different times during their  
2 life cycle so that something that starts off very small, as  
3 a cancer does, may grow very rapidly at first and then slow  
4 down. In other words, there is a period of time when there  
5 is very little metabolic activity in the cancer and then  
6 suddenly spurt again. And so the -- at one time there was a  
7 concept of doubling time. You took a look at how big the  
8 cancer was on the chest X-ray and then said well, how long  
9 ago was it when it was half as big and how long ago was it  
10 half as big again and so forth and it was thought at one  
11 time, a long time ago, that you could extrapolate that to  
12 zero time, in other words, to when that first abnormal cell  
13 division occurred just by taking a look at the growth rate.  
14 The problem was that if he had spurts of growth and then a  
15 period of quiescence, you really couldn't go back down to  
16 time zero, because it was meaningless. So there are very  
17 few people who rely on an evaluation of when a cancer  
18 started by the doubling time.

19 Q Well, doesn't cancer begin to grow, Doctor, before it  
20 becomes observable on X-ray?

21 A Yes, it does. It has to be about a centimeter, about a  
22 half an inch in diameter, before you can see it on a chest  
23 X-ray.

24 Q Doctor, is lung cancer a common disease in the United  
25 States among men?

1 A Unfortunately it is.

2 Q And how successful is the medical profession in treating  
3 lung cancer?

4 A Overall, very unsuccessful. Approximately ten percent  
5 of all people with lung cancer are alive in five years.

6 MR. JOHNSON: Your Honor, may I have just a moment  
7 to speak to my colleagues?

8 (Pause.)

9 MR. JOHNSON: Your Honor, cross-examine.

10 THE COURT: I think we'll take a brief recess  
11 before the cross-examination.

12 (Recess taken at 1:42 p.m.)

13 (Court reconvenes.)

14 THE COURT: Members of the jury, we'll be another  
15 minute or two.

16 (Pause.)

17 THE COURT: We're ready to proceed.

18 MR. MANNINO: Thank you, your Honor.

19 CROSS-EXAMINATION

20 BY MR. MANNINO:

21 Q Good afternoon, Dr. Epstein, how are you?

22 A Good afternoon.

23 Q Is it Epstein or Epstene?

24 A Epstein.

25 Q Okay. Doctor, you never saw John Gunsalus, did you?

1 A Yes, that's correct.

2 Q And you never treated him obviously?

3 A That's correct.

4 Q And you never saw any place in which he worked; is that  
5 correct?

6 A I have been at various places but not in the specific  
7 ships that he was working on, that's essentially correct.

8 Q Thank you. You were still in college when he was  
9 working at Sun Ship, that last time he worked at Sun Ship;  
10 isn't that correct?

11 A Yes, that's correct.

12 Q Now, you reached your opinion about him and communicated  
13 your opinions to Mr. Johnson in what has been marked as  
14 exhibits, I think, P -- in general -- 15A, in two letters  
15 and they were dated February 8th and April 4th of this year;  
16 is that correct?

17 A Yes, that's correct.

18 Q And in that first letter to Mr. Johnson the one of the  
19 February 8th it states that you had been given certain  
20 portions of Mr. Gunsalus' testimony; is that correct?

21 A That's correct.

22 Q And who selected those portions of the testimony?

23 A I don't know specifically who selected the portions of  
24 testimony but they dealt with his occupational exposures.

25 Q From whom did you receive those portions of the

1 testimony?

2 A From the plaintiff's law firm.

3 Q And do you know on what basis they made their selection  
4 of what portions of the deposition to give you?

5 A No.

6 Q Do you know if they held back from you any portions of  
7 the deposition at that time?

8 A Well, I said that it was portion of the testimony. I  
9 later reviewed the entire deposition testimony.

10 Q When you say you reviewed the entire deposition  
11 testimony, what did you review?

12 A I can't really identify it without having that in front  
13 of me but --

14 Q How many volumes were there?

15 A I don't recall the number of volumes. It depends on how  
16 many staples there were in that particular piece. I don't  
17 know.

18 Q We may show, if the defendants don't show it, we will  
19 show his -- if plaintiff rather --

20 THE COURT: I think you mean if the plaintiffs.

21 BY MR. MANNINO:

22 Q If the plaintiff doesn't show it, we will show the  
23 videotaped deposition of Mr. Gunsalus. Did you see the  
24 videotape deposition?

25 A No, I did not.

1 Q Now, you were also were provided with an employment  
2 history and a medical summary; is that correct?

3 A Yes, that's correct.

4 Q And where did you get the employment history from?

5 A Again, from Mr. Gunsalus' law firm.

6 Q Okay, and do you know what the source of the information  
7 in the employment history was?

8 A No, I do not.

9 Q In connection with your testimony regarding his work at  
10 Sun Ship do you have the amended Exhibit A that talks about  
11 the occupational history supplied by Mr. Johnson; is that in  
12 front of you, sir, if it is not I can provide you with a  
13 copy?

14 A Fine, why don't I just take a look at it --

15 MR. MANNINO: May I, your Honor, and --

16 THE COURT: Yes.

17 MR. MANNINO: -- perhaps we can mark this as  
18 Defendant's 23.

19 THE COURT: All right.

20 MR. MANNINO: And this is the -- I'm going to show  
21 it to Mr. Johnson.

22 (Pause.)

23 BY MR. MANNINO:

24 Q Dr. Epstein, what does that say about Sun Ship in the  
25 1960's, the time period that was involved?

1 A It says, 1960 to 1962.

2 Q Now, do you know whether or not Mr. Gunsalus for the  
3 whole period, between January 1, 1960 and December 31st,  
4 1962 worked at Sun Ship?

5 A No, I do not.

6 Q I think the record will reflect that Mr. Johnson and I  
7 have stipulated that for the period between June 5th, 1962  
8 and October 25, 1962, Mr. Gunsalus did not work at Sun Ship;  
9 is that correct?

10 MR. JOHNSON: For that four and a half month  
11 period, yes, Mr. Mannino, I have agreed with you on that.

12 BY MR. MANNINO:

13 Q Now, Dr. Epstein does that change your opinion with  
14 respect to whether or not Mr. Gunsalus' occupational  
15 exposure was sufficient at that time to cause the effects  
16 that you've testified about?

17 A No, it does not. May I explain my opinion about that?

18 Q Yes, you may.

19 A First of all, even if those four months were not spent  
20 at Sun Ship there was a period of time that he did work  
21 under the circumstances that I described at Sun Ship and at  
22 other places, but in addition to that, the -- one of the  
23 important points is that asbestos fibers were in fact found  
24 in his lung and found in a number that would be consistent  
25 with his work history.



1 Q Okay. Well, we'll get to that, but just focusing at  
2 this point on his work history. Would it change your  
3 opinion if you found out that after October 25, 1962 to the  
4 end of 1962, Mr. Gunsalus was in California?

5 A No, it would not change my opinion.

6 Q Would it change your opinion if you found out that in  
7 January 1, 1960 through some period in 1960, he was not at  
8 Sun Ship?

9 A Would you please define that a little bit further. You  
10 say, "some period in 1960," can you tell me specifically?

11 Q Let's say for the first six months of 1960, he was  
12 somewhere else?

13 A Leaving the period of time mid 1960 to mid 1962 at Sun  
14 Ship; is that correct?

15 Q That's correct.

16 A No, it would not change my opinion.

17 Q What in your opinion is the minimum amount of time he  
18 could have spent at Sun Ship --

19 MR. JOHNSON: Objection.

20 Q -- in order to have the exposure that you are depending  
21 upon as a sufficient occupational exposure, given the job  
22 that's been described?

23 THE COURT: If your objection is still pending it's  
24 overruled.

25

1 MR. JOHNSON: Fine.

2 THE WITNESS: There would be no minimum period of  
3 time, particularly since the finding of asbestos fibers in  
4 the lung was --

5 BY MR. MANNINO:

6 Q I'm asking you, Doctor, I hate to interrupt, but if  
7 you're talking about relying upon asbestos fiber in the lung  
8 we'll get to that. What I'm asking you is to what degree  
9 you are depending upon occupational history, and my question  
10 in that regard is --

11 THE COURT: Maybe, he trying to -- I don't  
12 understand, maybe you're trying to say you wouldn't rely on  
13 it if there none in the lung. If that's what you mean, then  
14 you can qualify your answer, but I think you have to answer  
15 looking only at the employment, what minimum period of time  
16 you would require, that's your question, isn't it?

17 MR. MANNINO: That is exactly the question.

18 THE WITNESS: Yes, I would not say that there was a  
19 minimum period of time below which I would not consider his  
20 occupational history to have been important, and the reason  
21 for that is that many, many studies and my own personal  
22 experience in treating patients has been that relatively  
23 short periods of time have been sufficient to produce  
24 asbestos-related disease.

25 BY MR. MANNINO:

1 Q But you can't give us any minimum specific period of  
2 occupational exposure?

3 A I can't give you a specific minimum amount of time.

4 Q It could be a day?

5 A It would be unusual for a day, yes.

6 Q But in your opinion it could be a day?

7 A Well, it depends on the circumstances and the exposure.

8 If the individual was in a room where there was very little  
9 air circulation and there were 10 million fibers per cubic  
10 centimeter of air, yes, one day would be sufficient. It  
11 depends on the intensity of the exposure.

12 Q Could it be an hour?

13 A Again, that depends on the situation of the exposure.

14 It obviously would be unusual for that short of period of  
15 time to have produced an asbestos-related condition. I am  
16 not saying that that's the norm. I'm saying that I can't  
17 make that judgment on the basis of the information that you  
18 give me, it's just impossible.

19 Q Would you -- excuse me -- would you rely upon the  
20 occupational history if environmental asbestos levels were  
21 found on autopsy in his lung?

22 A I think I need a better definition of what you mean by  
23 that question because I simply don't understand it.

24 Q Would you agree that everyone of us is walking around in  
25 Philadelphia, has some asbestos fibers in their lung?

1 A Yes.

2 Q Okay, and if all that were shown on an autopsy by the  
3 person who examined the lung, were asbestos fibers  
4 consistent with that type of exposure what I'll call ambient  
5 exposure, would you have looked at John Gunsalus'  
6 occupational history and taken that into account?

7 A Of course, I would take it into account but the fact is,  
8 I would have to be certain that the samples of lung tissue  
9 were taken from several different areas of the lung, that it  
10 was not sample just from the top of lung but from the base  
11 of the lung where the asbestos fibers frequently are more  
12 numerous. I would have to know much more about it unless I  
13 had an ashed sample of lung that had a careful evaluation of  
14 the number of asbestos fibers present.

15 Q But if you found upon a proper examination of the lung  
16 that the asbestos fibers were consistent with environmental  
17 or ambient exposure, would there be any relevance whatsoever  
18 in your opinion of his occupational history for a diagnoses  
19 such as you've given today?

20 THE COURT: When you say "consistent with" do you  
21 mean no more than you would get from walking around --

22 MR. MANNINO: Exactly.

23 THE COURT: Because the jury and I aren't as  
24 familiar with ambient exposure as the two of you may be.

25 THE WITNESS: I think that if there were no

1 asbestos fibers or that type of asbestos level that were  
2 found only in people who had never been exposed to asbestos,  
3 that I would be unlikely to make that diagnosis, unless  
4 there were unusual circumstances, such as, poor sampling  
5 technique of the lung for evaluation.

6 BY MR. MANNINO:

7 Q I want you to look at Exhibit B to your report or  
8 Exhibit B, I believe is something that is referenced in your  
9 report.

10 MR. MANNINO: I also marked that as Defendant's  
11 Exhibit-23.

12 Q And ask you if this Exhibit B --

13 MR. MANNINO: If I may approach the witness, your  
14 Honor?

15 THE COURT: Yes.

16 BY MR. MANNINO:

17 Q Is this the medical history that was provided to you for  
18 purposes of your opinion?

19 A That of course is a summary of the hospitalizations and  
20 physicians, that's not the major piece of information that I  
21 relied on, although I did consider this page as well.

22 THE COURT: Can I just ask you, how was that  
23 marked?

24 MR. MANNINO: I believe 23. What did I say for the  
25 last one?

1 THE COURT: The last one was 23. I thought you  
2 said Exhibit B.

3 MR. MANNINO: I'm sorry, it should be 24. Then  
4 I'll change that.

5 THE COURT: All right.

6 MR. MANNINO: Your Honor, it was Exhibit B to  
7 another document in this case.

8 THE COURT: All right. Well, is it not Exhibit 24  
9 or 23B?

10 MR. MANNINO: Yes, it is, your Honor, and I'll  
11 change that 24.

12 THE COURT: 24, okay.

13 MR. MANNINO: Thank you, your Honor.

14 Q Is that document, sir, the document that is referred to  
15 in your February 8th, 1988 opinion as the summary of medical  
16 history of John Gunsalus?

17 A Yes, that's correct.

18 Q And again, who provided that to you, sir?

19 A That was Mr. Gunsalus' law firm.

20 Q And do you know on what basis they made the selection of  
21 those medical incidents?

22 A I don't know the specific reasons that they chose that.

23 Q Okay, and can you read into the record what medical  
24 history was provided to you?

25 A Yes. It says, "Hospitalizations, Chester Hospital,

1 Chester, Pa., multiple stab wounds, 1957. Crozer-Chester  
2 Hospital, Chester, Pa, four admissions. 1975, 1976, 1977,  
3 myocardial infarctions. 1976 fractured leg."

4 MR. JOHNSON: Objection, your Honor, may we see you  
5 at sidebar?

6 THE COURT: Yes.

7 (Discussion held at sidebar as follows:)

8 MR. JOHNSON: I objected to counsel attempting to  
9 introduce my client's non-lung related medical history  
10 when this is not to demonstrate and to form a basis of his  
11 opinion.

12 MR. MANNINO: Supplied to him for his opinion --

13 MR. JOHNSON: Sure, it was supplied to him.

14 THE COURT: But doesn't he have to cross-examine  
15 (inaudible)

16 MR. JOHNSON: But that was of the cancer, this has  
17 got nothing to do with the cancer.

18 MR. MANNINO: I'm only going to ask him about the  
19 status.

20 THE COURT: Well, then why don't you ask him.

21 MR. JOHNSON: That's right. He's got him reading  
22 in a couple of pages, your Honor, to say that he relied on  
23 that exhibit to form his opinion.

24 MR. MANNINO: That's exactly right.

25 THE COURT: Why don't you ask the witness or just

1 show that he made the point -- you can make the point two or  
2 three times except -- you made the point about the chart a  
3 couple of times.

4 MR. MANNINO: I'm not going to repeat. I'm just  
5 going to ask him about the stab wounds.

6 THE COURT: All right. I just wanted to say that I  
7 think that he has a right to cross-examine him on what was  
8 (inaudible).

9 MR. MANNINO: Thank you, your Honor.

10 MR. JOHNSON: Thank you.

11 (End of sidebar discussion.)

12 MR. MANNINO: Your Honor, if I may, I'd like to  
13 approach the witness to use that diagram that we made D-601.

14 THE COURT: Do you want to approach and use it or  
15 do you want him to?

16 MR. MANNINO: No, I want --

17 THE COURT: Very well.

18 BY MR. MANNINO:

19 Q The only question, Doctor, I'm going to ask you with  
20 respect to the stab wounds --

21 THE COURT: Wait, Mr. Mannino, you have to speak  
22 where there's a microphone. No walking questions.

23 MR. MANNINO: Sorry.

24 Q Doctor, the only question I'm going to ask you, is could  
25 you draw for us on this diagram, where the 13 stab wounds



1 that were in the chest and the heart and lungs or near the  
2 chest and heart and lungs occurred?

3 A No, I can't draw the specific 13 places that he was  
4 stabbed.

5 Q Do you know where he was stabbed?

6 A I know that he was stabbed so that it involved the  
7 pericardium and the lung but I don't know exactly where it  
8 was.

9 Q Have you seen any medical records which would enable you  
10 to tell us exactly where he was stabbed?

11 A No. No specifically pieces of information that tell me  
12 where he was stabbed.

13 Q All right. Doctor, I'd like to ask you a very direct  
14 question. Can you say with a reasonable degree of medical  
15 certainty that if Mr. Gunsalus had stopped smoking at the  
16 beginning of 1966 it is more probably than not that his pre  
17 1966 smoking would have caused lung cancer in 1985, which  
18 presented in 1985?

19 A Would you just repeat that question so I'm sure I  
20 understand you?

21 Q Can you say with a reasonable degree of medical  
22 certainty that if Mr. Gunsalus had stopped smoking in the  
23 beginning of 1966 it is more probable than not, that his pre  
24 1966 smoking would have caused lung cancer which presented  
25 in 1985?

1 MR. JOHNSON: Objection, relevance.

2 THE COURT: Overruled.

3 THE WITNESS: Well, that's an impossible question  
4 to answer. The fact is that no one can answer that  
5 question. The fact is that he did not stop smoking in 1966  
6 and I don't know of any way to make the judgment, medically,  
7 that you've just asked in view of the fact that he did  
8 continue to smoke after that time.

9 BY MR. MANNINO:

10 Q So, in reaching your opinion, isn't it true, Doctor,  
11 that you relied upon not solely his pre 1966 smoking but  
12 also his post 1966 smoking?

13 A Well, I think I --

14 MR. JOHNSON: Objection, which opinion?

15 MR. MANNINO: His opinion that he delivered here  
16 today relating to a substantial contributing factor and  
17 cause.

18 MR. JOHNSON: There were at least -- there were  
19 several. Some pre '66, some general --

20 THE COURT: Well, you'll be able to clarify it.  
21 This is cross-examination and if the witness doesn't  
22 understand the question he can say so, if you want to  
23 clarify it on redirect, you may do so.

24 MR. JOHNSON: Fine.

25 THE COURT: Now, do you remember the question?

1 THE WITNESS: Not exactly.

2 THE COURT: All right. Would you ask the --

3 BY MR. MANNINO:

4 Q Isn't it true, Doctor, that you took into account in  
5 your reaching your opinion, not solely the pre 1966 smoking  
6 but also the post 1966 smoking?

7 A Yes, of course. I think I said that as well and I  
8 mentioned specifically the reason that I did that, not only  
9 in terms of the continuing increased risk of cancer even  
10 after an individual stopped smoking but also the addictive  
11 qualities of cigarette smoking in general.

12 Q And we understand that. I think you've answered that  
13 question, but -- and we'll get to that a little bit later  
14 into more detail, but --

15 THE COURT: Would you ask questions, please, Mr.  
16 Mannino?

17 MR. MANNINO: Yes, your Honor.

18 Q Doctor, suppose Mr. Gunsalus had not had the exposure to  
19 asbestos which you described in your opinion, could you say  
20 with a reasonable degree of medical certainty that if he had  
21 stopped smoking at the beginning of 1966 it is more probable  
22 than not that his pre 1966 smoking would have caused lung  
23 cancer which presented 19 years later in 1985?

24 MR. JOHNSON: The same objection.

25 THE COURT: Overruled.

1 THE WITNESS: One cannot say that with certainty  
2 for the reasons that I've just stated in your previous  
3 question.

4 BY MR. MANNINO:

5 Q Let's turn to another topic then, Doctor, do you tell  
6 your patients who come in to stop smoking if they're  
7 smoking?

8 A Yes.

9 Q Why do you tell them that?

10 A Because smoking causes lung cancer and a variety of  
11 other lung diseases.

12 Q Will it help them to stop smoking?

13 A Yes, of course.

14 Q Do you advise your patients with asbestos exposure who  
15 also smoke that that should quit smoking?

16 A Yes.

17 Q Do you advise them that because that will help them?

18 A Yes.

19 Q Dr. Epstein, would you advise an individual who is an  
20 asbestos worker or who was exposed to asbestos and had also  
21 been a cigarette smoker to quit smoking because  
22 discontinuation of cigarette smoking over a period of 10 to  
23 15 years would bring them back to the baseline risk of  
24 someone who was exposed to asbestos but not a smoker?

25 A Because it would bring them back toward that level, yes.

1 Q And in fact, you testified exactly in those words in a  
2 case called Flenke versus Bell Associates; is that correct?

3 A Yes, that's correct, and that is the general reason that  
4 I would recommend that they stop smoking.

5 Q Okay. You talked about bringing them back to a baseline  
6 risk of someone who is exposed to asbestos but not a smoker,  
7 but in your direct testimony you said the evidence is such  
8 that the risk of a former smoker never falls back to zero.  
9 So, on the one hand we have a concept called the baseline  
10 risk and the other hand we have a concept called a zero  
11 risk; is that correct?

12 A Yes, that's correct.

13 Q And they're two different things?

14 A Yes, of course, they're two different things.

15 Q Zero risk is you have absolutely no risk of getting  
16 cancer at all?

17 A That's correct.

18 Q And a baseline risk is anybody who has never smoked one  
19 cigarette in their life has a chance of getting cancer --

20 A Yes, that's correct.

21 Q -- of the lung; is that correct?

22 A That's correct.

23 Q So, if they stopped smoking for a period of 10 or 15  
24 years isn't it true, as you testified in the Flenke case,  
25 that that brings them back to the baseline risk of someone

1 who is exposed to asbestos but not a smoker?

2 A Well, I don't recall the exact date of that testimony.

3 Can you tell me when that was given?

4 Q December 1st, 1987, I have a copy of it with me if you'd  
5 like to see it?

6 A Mm-hmm.

7 MR. JOHNSON: May I be provided with a copy, your  
8 Honor?

9 BY MR. MANNINO:

10 Q Would you like to see it, Doctor?

11 A Yes, please.

12 MR. JOHNSON: What page, please?

13 MR. MANNINO: Page 134.

14 THE COURT: You say 134?

15 MR. MANNINO: Yes, your Honor. I have a copy for  
16 you too, your Honor.

17 (Pause.)

18 THE WITNESS: Yes, that is the statement that was  
19 made in this deposition -- in this testimony.

20 BY MR. MANNINO:

21 Q And that statement was made under oath?

22 A Yes, that's right.

23 Q And you still agree with that statement?

24 A Oh, absolutely. Absolutely, and let me explain that --

25 Q Doctor, you've answered my question. Thank you, your

1 counsel --

2 MR. JOHNSON: Your Honor, may the Doctor be able to  
3 explain his answer?

4 THE COURT: Certainly when you have redirect.

5 MR. JOHNSON: Fine.

6 BY MR. MANNINO:

7 Q Do you still have, Doctor, the material from the Surgeon  
8 General's Report that had those lines of risk, relative  
9 risk, is that still behind you?

10 A Yes.

11 MR. MANNINO: Let me -- if I may, your Honor, may I  
12 approach the witness and put that back on the stand?

13 THE COURT: Yes.

14 MR. MANNINO: Thank you.

15 Q When we're talking about that baseline risk if Mr.  
16 Gunsalus had stopped smoking in 1966 which category would  
17 you have put him in after 10 to 15 years of smoking -- not  
18 smoking?

19 A I would put him between the non-smoker not exposed to  
20 asbestos, the risk of one and the non-smoking asbestos  
21 worker which is 5.17.

22 Q Okay. When we talk about the baseline risk, we talk  
23 about a baseline risk also of a different type, namely a  
24 non-smoker who was exposed to asbestos. Was there also a  
25 baseline risk for that?

1 A Yes, that's correct.

2 Q And where would Mr. Gunsalus be after 10 to 15 years of  
3 not smoking?

4 A He would also be between that first column and the  
5 second column. He would not be in any of those four columns  
6 that are labeled there.

7 Q What is the basis for your opinion on that?

8 A The basis for my opinion is that there have been variety  
9 of epidemiologic studies that at one time indicated that the  
10 individuals who had stopped smoking would fall back to the  
11 baseline risk but more recent studies have shown without any  
12 equivocation at all that the risk never falls back down to  
13 zero. There has been no indication that that ever -- excuse  
14 me, I said zero and I meant one.

15 Q You said zero and I was going to ask you --

16 A I meant one, excuse me, that it falls back down to the  
17 baseline risk of one.

18 Q Where does it fall?

19 A It falls somewhere between one and five and I don't  
20 believe that there is absolute consistency in the variety of  
21 epidemiologic studies that have been done but most of the  
22 modern studies are around two.

23 Q Around two meaning less than two or over two?

24 A Some are about two and some are in that range, just  
25 below two or at that level.



1 Q When you talk about two, you're talking about a relative  
2 risk of two?

3 A Twice as much, yes.

4 Q Sir, what studies of those studies that you've testified  
5 about occurred after your deposition testimony on December  
6 1st, 1987?

7 A Well, I don't know exactly which ones were published  
8 before that time. There were a variety that I read after  
9 that deposition testimony.

10 Q Didn't you also testify, sir, and I'm quoting, "If a  
11 person stopped smoking there's a progressive decrease in the  
12 risk of developing cancer of the lung and that..."

13 MR. JOHNSON: Objection. Can counsel please, give  
14 me the page?

15 THE COURT: If you're using any of his prior  
16 statements, will you please provide them to Mr. Johnson --

17 MR. MANNINO: I will.

18 THE COURT: -- before you use them. You don't need  
19 to provide them to the witness, but you must provide them to  
20 Mr. Johnson.

21 MR. MANNINO: Yes, your Honor. This is from a case  
22 *Hilferty versus Raymark*.

23 MR. JOHNSON: Page number and reference, please?

24 MR. MANNINO: 83 and 84. May I give this to the  
25 witness, your Honor?

1 THE COURT: Yes.

2 BY MR. MANNINO:

3 Q It's at the bottom of the page, Doctor, and take a  
4 moment to review the context and then I'll ask you a  
5 question about it.

6 A Yes.

7 Q Sir, was this deposition given under oath?

8 A Yes.

9 Q And was it given on July 18th, 1987?

10 A Yes.

11 Q And sir, were you asked on page 83 at line 22, "Now, I'd  
12 like to ask you a series of questions about cessation of  
13 cigarette smoking. If a person stops or quits smoking  
14 cigarettes what impact, if any, does that have upon his  
15 increased risk of developing lung cancer?"

16 Was that the question?

17 A Yes.

18 Q And sir, did you answer, I quote, "If a person stops  
19 smoking there's a progressive decrease in the risk of  
20 developing cancer of the lung and that risk falls back  
21 toward the baseline and essentially reaches the baseline of  
22 a non-smoker after a period of 10 to 15 years."

23 Did you say that, sir?

24 A That is exactly what I said.

25 Q And you stick by that testimony today?

1 A Absolutely.

2 Q Sir, you mentioned the Surgeon General and some of the  
3 Surgeon General's reports in your direct testimony and, in  
4 fact, the chart with the baseline that we just had, did that  
5 come from the Surgeon General's reports, one of his 1985, I  
6 believe?

7 A Yes, I believe so.

8 Q I'm going to supply you with a statement and ask you if  
9 you're familiar with a recent statement of the Surgeon  
10 General. This will be Page 11.

11 I'm going to ask you -- I forget about these  
12 microphones -- I'm going to ask you --

13 MR. JOHNSON: Objection, your Honor. May we go to  
14 sidebar?

15 THE COURT: Yes.

16 (Sidebar discussion held on the record as follows:)

17 MR. JOHNSON: Well, I have objection. This is  
18 something that was prepared for a law firm by a consultant.  
19 I haven't the vaguest idea whether it's authentic or not.

20 MR. MANNINO: I'm going to ask him if he has heard.

21 THE COURT: Well, I have to say that you had this  
22 before because it's part of -- it's an exhibit to the  
23 argument about the inadmissibility of the Surgeon General's  
24 report, so I think it's kind of funny in a way, I thought  
25 you tried to introduce it. But I don't see --

1 MR. MANNINO: I'm trying to impeach him with it.

2 THE COURT: Well, how could you impeach him with  
3 something somebody else said?

4 MR. MANNINO: Because he relies on the Surgeon  
5 General and all these things he said, he identified the  
6 reports.

7 THE COURT: He relies on the report, but there is  
8 nothing to say that it was --

9 MR. JOHNSON: The report is by the Public Health  
10 Service.

11 THE COURT: If you want to ask him whether he feels  
12 that is a fair and objective report or whether Koop -- he  
13 may even know Koop. If you're going to ask him if he's an  
14 evangelical about cigarette smoke or something like that,  
15 but you can't ask, it's not his. Ask him if he's ever heard  
16 the report, if he has a bias.

17 MR. MANNINO: Okay.

18 (End of sidebar discussion.)

19 THE COURT: There was an objection to the use of  
20 this document in cross-examination that has been sustained.

21 BY MR. MANNINO:

22 Q Sir, you also used Dr. -- that chart, the chart that I  
23 held up a moment ago, that was from, I believe, Page 218 of  
24 the Surgeon General's report of 1985. Do you have a copy of  
25 that with you, sir?

1 A I don't have one with me, no.

2 Q Is that one of the documents that you looked at in  
3 preparation for your testimony?

4 A I certainly have read that document before. I don't  
5 know whether I looked at it specifically for this purpose.

6 MR. MANNINO: May I approach the witness with  
7 another page from the same report, your Honor?

8 THE COURT: Yes.

9 BY MR. MANNINO:

10 Q I believe, Doctor, that chart appeared on 218 and I'm  
11 going to ask you to read into the record the paragraph that  
12 I circled on Page 227.

13 A This says "In summary."

14 Q I believe the chart is on 218, if you're looking  
15 for that.

16 MR. JOHNSON: It's actually on 217, Mr. Mannino.

17 MR. MANNINO: Thank you, Mr. Johnson.

18 THE WITNESS: "In summary, the data suggests that  
19 elimination of further asbestos exposure may prevent the  
20 further increase in relative risk that would accompany an  
21 increase in cumulative exposure. However, the relative  
22 risk of developing lung cancer persists even after prolonged  
23 avoidance of additional asbestos exposure. In contrast, the  
24 cessation of cigarette smoking appears to reduce the risk of  
25 developing lung cancer in asbestos insulation workers

1 compared with those workers who continued to smoke. And the  
2 time course of this reduction in risk is similar to that  
3 found among smokers in the general population who stopped  
4 smoking."

5 BY MR. MANNINO:

6 Q Do you agree with that statement?

7 A Yes, because it says that if you stop smoking, it  
8 reduces your risk. It doesn't say that the risk goes away,  
9 but it does say that it reduces the risk in the same way  
10 that a non-asbestos exposed individual has a reduced risk if  
11 he stops smoking.

12 Q Do you know who Dr. Charles LaMater is, a  
13 former head of the American Cancer Society?

14 A I know his name; I don't know him.

15 Q Do you know Dr. LaMater's testimony in the Horton case?

16 A Absolutely not.

17 Q Do you have any knowledge as to how many people have  
18 successfully stopped smoking in the United States in the  
19 last ten years?

20 A I don't know the number of people who have successfully  
21 stopped smoking.

22 Q Do you know if it's more than ten million?

23 A I really couldn't tell you the exact number.

24 Q Have you seen in connection with the testimony you've  
25 done in other cases any statistics on that?

1 A There are a variety of statistics that I have reviewed  
2 but I can't recall that specific number being referred to as  
3 the number who have stopped smoking in the last -- what  
4 period of time?

5 Q Ten years.

6 A Ten years, now, right.

7 Q Do you know --

8 A I don't recall that.

9 Q I'm sorry. Do you know the number of people who have  
10 successfully stopped smoking in any recent period?

11 A No, I don't know the number.

12 Q Doctor, you mentioned in your testimony I think in a few  
13 places the word "addiction." Do you recall that?

14 A Yes.

15 Q Are you a psychiatrist?

16 A No, I'm not a psychiatrist.

17 Q Are you a psychologist?

18 A No, I'm not.

19 Q Are you an expert in the pharmacology of nicotine?

20 A I'm not an expert in the pharmacology of nicotine, no.

21 Q Do you know what pharmacokinetics is?

22 A Yes.

23 Q What is pharmacokinetics?

24 A Actually it's pharmacokinetics and that means the  
25 ability of the body to rid itself of some drug such as

1 nicotine and the speed with which it occurs and the  
2 mechanism by which it occurs.

3 Q Are you familiar with the speed at which it occurs?

4 A I would have to review that. I don't recall that  
5 offhand since I don't ordinarily deal with the  
6 pharmacokinetics of nicotine.

7 Q Do you know what DSMR-3 is?

8 A Yes.

9 Q What is DSMR-3?

10 A I don't remember the exact --

11 Q Excuse me, 3-R. DSM3-R, I inverted it.

12 A That's fine. That's the -- I had a little difficulty  
13 with the letters that you gave me but that is the listing of  
14 psychiatric illnesses, as I recall.

15 Q Is this a document you use all the time in your  
16 practice?

17 A I don't use that all the time, no.

18 Q Does this document set forth diagnostic measure or  
19 diagnostic conclusions for nicotine dependence or addiction?

20 A I believe that it talks about addiction. I'm not -- I  
21 haven't reviewed it recently, I don't know whether it  
22 specifically talks about nicotine.

23 Q And that means that if it does, you don't know what the  
24 criteria are for nicotine dependency?

25 A I would have to review it since I don't usually use that



1 document in my practice.

2 Q Do you diagnose people as being nicotine addicted or  
3 dependent?

4 A Well, as a matter of fact, now you've hit on something  
5 that is very much a part of my practice because I think I  
6 told you earlier that a large proportion of my practice has  
7 to do with people who are cigarette smokers. Now, my advice  
8 to all of those people is to stop smoking and I am in a  
9 position to see them repetitively and to help them in the  
10 discontinuation of that habit. When an individual comes to  
11 me for treatment of lung disease, understands that they have  
12 lung disease and understands that the disease is caused by  
13 cigarette smoking and I make all efforts to help them stop  
14 and they say: I really want to stop. I just can't do it,  
15 Doctor. And that happens repetitively and frequently in my  
16 treatment, that person to me is addicted and I know that  
17 they're addicted because they're habituated to that  
18 material, they have withdrawal symptoms when they try to  
19 stop and they have great difficulty in discontinuation even  
20 for a short period of time. That to me is addiction and I  
21 do see that every day in my practice.

22 Q Whose criteria are you using to conclude addiction?

23 A The criterion are the generally accepted criteria  
24 including those of the Surgeon General.

25 Q Where do you find the criteria for nicotine dependence

1 and nicotine addiction?

2 A Well, one of the places is in the most recent Surgeon  
3 General's report, which was just published.

4 Q Is that what psychiatrists or psychologists use for  
5 nicotine dependence?

6 A I can't answer for all psychologists or psychiatrists.  
7 I can answer for myself.

8 Q A few answers ago you used the words "discontinuance of  
9 that habit." Do you recall that?

10 A Yes.

11 Q And you were referring to cigarette smoking?

12 A Yes.

13 Q So you consider cigarette smoking a habit?

14 A A habituation or an addiction is frequently referred to  
15 interchangeably, at least in the medical community.

16 Q Is drinking coffee a habit?

17 A Well, it certainly can be a habit.

18 Q Is eating ice cream a habit?

19 A It depends on the individual who is talking about it,  
20 but it obviously can be a habit.

21 Q Is eating chocolate a habit?

22 A Obviously any of those can be a habit. That doesn't  
23 mean that habituation in the sense that I'm using it is the  
24 same thing as a habit. I have a habit of putting on a tie  
25 and jacket, but that doesn't mean I'm addicted to it.

1 Q But you described cigarette smoking a few answers ago  
2 as a habit, didn't you?

3 A I think that is a matter of semantics and I tried to  
4 explain the specific way in which I was using the term.

5 Q Do you recall any nicotine dependence or addiction  
6 classes or courses or materials in any of your medical  
7 school training?

8 A I'm sorry, would you repeat that question?

9 Q Were you taught about nicotine withdrawal, nicotine  
10 dependence or addiction in any of your medical school  
11 classes, courses or materials?

12 A I don't recall that that was specifically dealt with in  
13 medical school.

14 Q You never talked to Mr. Gunsalus, we established that;  
15 is that correct?

16 A I'm sorry, I didn't hear what you said.

17 Q You never talked to Mr. Gunsalus?

18 MR. JOHNSON: Objection.

19 THE COURT: We have established that. Sustained.

20 BY MR. MANNINO:

21 Q Were you aware that there is a psychiatrist who did talk  
22 to Mr. Gunsalus in connection with this lawsuit?

23 A I believe so. I believe I mentioned that in my report,  
24 if I'm not mistaken.

25 Q Did you review his report or reports?

1 A Yes.

2 Q Do you think that a Board Certified psychiatrist who has  
3 interviewed Mr. Gunsalus on two occasions would be in a  
4 better position to diagnose him as nicotine dependent or not  
5 than you are?

6 A No, I don't think so to tell you the truth, because I  
7 deal with that problem every day in a large proportion of my  
8 practice, as I mentioned to you. The fact is that when an  
9 individual not only knows that something is going to harm  
10 him and is in fact harmed by that material and knows that  
11 he's being harmed by the material and still can't give it  
12 up, I believe I'm in a position to diagnose addiction to  
13 that material.

14 Q Do people choose, sir, to do things that are not healthy  
15 in your opinion?

16 A That is possible, of course.

17 Q And you don't know whether Mr. Gunsalus chose to  
18 continue smoking or did it because he was addicted, do you?

19 A In my professional opinion he was addicted.

20 Q Based on the information which you supplied to us today,  
21 is that correct?

22 A That's correct.

23 Q Now, Doctor, you also told Mr. Johnson and mentioned at  
24 the beginning of this cross-examination certain analyses for  
25 asbestos fibers that were done by some organization, I think

1 it was called Structure Probe?

2 A Yes.

3 Q That report found a certain type of asbestos, did it  
4 not?

5 A Yes, it did.

6 Q And that was a fiber called chrysolite, am I pronouncing  
7 that correctly?

8 A No, you're not. It's chrysotile.

9 Q Chrysotile. And what is chrysotile?

10 A Chrysotile is a particular type of asbestos fiber that  
11 makes up about 90 percent of the commercially useful  
12 asbestos and it is frequently mined in Canada. There are  
13 other places in the world that it's mined, but probably most  
14 of it came from Canada.

15 Q What was the size of the asbestos fibers found by  
16 Structure Probe?

17 A I'd have to review the exact size.

18 Q Do you have that report in front of you?

19 A Yes.

20 Q Would you please do that?

21 A It will take me a moment to find the specific reference,  
22 unless you have it.

23 Q I think I can help you if you have the same thing that I  
24 have.

25 MR. MANNINO: May I approach the witness, your

1 Honor?

2 THE COURT: Yes.

3 BY MR. MANNINO:

4 Q These pages are not numbered, so I can't refer to the  
5 page. It's the fourth page after Page 7, I believe.

6 A I'm sorry. Yes, okay.

7 Q Yes, the size of the fiber. And, Doctor, you can look  
8 at the report.

9 A Yes, there is a .35 microns in length and a .5 microns  
10 in diameter, a .2 microns in length and a .03 microns in  
11 diameter and a 1 micron bundle in length and .1 microns in  
12 diameter.

13 Q How many asbestos fibers are actually seen on the  
14 analysis in that report of Mr. Gunsalus' lung tissue?

15 A 196,126, I believe.

16 Q The fibers, sir.

17 THE COURT: You mean types or number?

18 BY MR. MANNINO:

19 Q I mean number of fibers. How many asbestos fibers were  
20 actually seen in the tissue?

21 A Again, I would have to -- here we go. Asbestos fibers  
22 per gram of dry weight tissue, 196,127.

23 Q Isn't that an extrapolation and actually what they found  
24 was three fibers?

25 A They took the amount of tissue that they had available

1 and counted the number of fibers and then they calculated  
2 the number per gram of dry weight tissue, which is the  
3 standard way of doing that.

4 Q But what I am asking you is when they looked at the  
5 tissue --

6 A Yes.

7 Q -- they actually found three fibers, correct?

8 A Yes, that's correct.

9 Q The longest one was 1 micrometer in length, is that  
10 correct?

11 A 1 micron.

12 Q Now, Doctor, I believe I asked you this before, but we  
13 are all exposed to some asbestos fibers simply because we  
14 live in an urban environment, isn't that correct?

15 A Yes, that's right.

16 Q Even if we don't work with asbestos?

17 A Yes, that's correct.

18 Q Are you familiar with IARC, I-A-R-C?

19 A Yes.

20 Q And what does IARC stand for?

21 A Again, I would have to --

22 Q International Agency for Research on Cancer?

23 A Agency Against Cancer or something.

24 Q Recognized authority?

25 A Well, of course, it's a recognized organization and I

1 agree with some of the things, but I disagree with other  
2 things that are put out by that organization.

3 Q Do you know whether this organization has published  
4 reviews on asbestos and cancer?

5 A Yes.

6 Q Have you had occasion to look at those reviews?

7 A Yes, some of them.

8 Q Are you familiar with the statement from IARC on  
9 asbestos and other natural fibers?

10 A I would have to have a better citation than that.

11 Q I will supply a copy both to you and to your counsel,  
12 it's the Environmental Health Criteria 53, Asbestos and  
13 Other Natural Fibers, IPCS International Program on Chemical  
14 Safety and it was dated World Health Organization, Geneva,  
15 1986.

16 MR. JOHNSON: I'd be happy to look at that,  
17 although as counsel well knows, this is not my client. I am  
18 not his counsel. He is my expert.

19 THE COURT: Counsel is required to show opposing  
20 counsel what he is using in cross-examination.

21 BY MR. MANNINO:

22 Q Page 134 and 135. And if I may --

23 MR. JOHNSON: Yes, Mr. Mannino.

24 MR. MANNINO: May I put a copy in front of the  
25 witness?



1 THE COURT: Yes.

2 BY MR. MANNINO:

3 Q Doctor, if I may, I would like to direct your attention  
4 to 134 and 135 of that and particularly the portion on the  
5 bottom of 134 and the top of 135, General Population  
6 Exposure which reports certain conclusions of the task group  
7 that prepared this report. Do you see that, sir, it's under  
8 A and B?

9 A Yes.

10 Q And, sir, am I correctly reading that to say as follows,  
11 quote, "For the general environment, the task group  
12 concluded that, A, the major fiber type observed in the  
13 general environment is chrysotile, the average fiber  
14 concentration ranges over three orders of magnitude from  
15 remote, rural, to large urban areas; B, chrysotile fibers in  
16 the general environment are virtually all less than five,"  
17 and then there is a figure. What does that refer to, sir,  
18 UM, it looks like?

19 A That's microns.

20 Q "Five microns in length and possess diameters that  
21 require electron microscopy for visualization. These fibers  
22 have not been characterized in workplace environments nor  
23 have they been considered in computing dose response  
24 estimates for human disease." Did I correctly read that?

25 A That's what you said, yes. That's what this document

1 says.

2 Q And do you agree with that?

3 A Well, I agree that that can be found in non-occupational  
4 exposures, yes.

5 Q And according to IARC, the type and size of fibers found  
6 by Structure Probe in their report are the same as those  
7 found in the urban environment, is that correct?

8 A That does not mean that they did not find the same types  
9 of fibers in the occupational setting; that isn't what this  
10 says. This says --

11 Q Well, that wasn't my question, Doctor.

12 A This says --

13 MR. JOHNSON: Excuse me, your Honor. Would counsel  
14 please not cut off the witness?

15 THE COURT: Yes, let him finish his explanation,  
16 please.

17 THE WITNESS: This says that small fibers can also  
18 be found in non-occupational exposures.

19 BY MR. MANNINO:

20 Q But my question, Doctor, was the type and size of the  
21 fibers found by Structure Probe are the same as those found  
22 in the urban environment, are they not?

23 A Yes, that's correct.

24 Q Did you know that Dr. Pietra, who I believe was  
25 mentioned or at least has been identified in this proceeding

1 as a plaintiff's expert, also did a report on the analysis  
2 of Mr. Gunsalus' lung tissue?

3 A Yes.

4 Q Were you sent a copy of that report?

5 A Yes.

6 Q And you reviewed it?

7 A Yes.

8 Q Didn't Dr. Pietra state in his report that electron  
9 microscopy and X-ray spectroscopy did not detect commercial  
10 asbestos fibers?

11 A Oh, yes, but he was dealing -- he had pieces of the  
12 tumor, not the pieces of the lung tissue. And we are  
13 dealing again with the issue that I brought up earlier and  
14 that is that you have to have pieces of tissue that are  
15 representative of the lung, and that was never an issue with  
16 Dr. Pietra's piece of lung tissue.

17 Q What I'm saying, Doctor, is that in terms of people who  
18 have actually done these analyses, we have Structure Probe  
19 on the one hand, which we've talked about, and Dr. Pietra on  
20 the other hand, is that correct?

21 MR. JOHNSON: Objection.

22 BY MR. MANNINO:

23 Q Nobody else?

24 MR. JOHNSON: I don't know what that question  
25 means, one on --

1 BY MR. MANNINO:

2 Q Is there anyone other than Dr. Pietra and Structure

3 Probe that has done an analysis of the existence or

4 non-existence of asbestos fibers in Mr. John Gunsalus?

5 A Not that I'm aware.

6 Q And you haven't done any independent work in that area?

7 A No.

8 Q Are you familiar, Dr. Epstein, with the work of Dr.

9 Andrew Churg, that's C-H-U-R-G?

10 A Yes.

11 Q Who is Dr. Churg?

12 A He is a pathologist.

13 Q Do you know Dr. Martha Warnock?

14 A Yes.

15 Q And who is she?

16 A She is also a pathologist.

17 Q Are you familiar with the work of Drs. Churg and Warnock

18 in the area of analyzing lung tissue for asbestos?

19 A I am sure I have read portions of that, yes.

20 Q Do you recognize them as competent people to do

21 measurements of asbestos fibers in lung tissue?

22 A I recognize them as competent people, but I do not agree

23 with everything they say.

24 Q Do you know their article "Asbestos Fibers in the

25 General Population"?

1 A Yes.

2 THE COURT: While we have a break, I would like to  
3 ask you how long you expect your cross-examination will  
4 continue.

5 MR. MANNINO: Ten minutes. Do you want to break  
6 then, your Honor?

7 THE COURT: No, no, I want to reach the end of the  
8 court day and hopefully excuse this witness for the day.

9 MR. MANNINO: So do I.

10 THE COURT: And Mr. Johnson has an opportunity to  
11 redirect as well, but I don't intend to cut you short on  
12 this.

13 MR. MANNINO: This is my last group of questions.  
14 May I put the article before the witness?

15 THE COURT: Yes.

16 BY MR. MANNINO:

17 Q Doctor, identifying this article for the record, I have  
18 given you the title as appeared in the American Review of  
19 Respiratory Disease, Volume 122, 1980, is that correct?

20 A Yes.

21 Q You have read the study before?

22 A Yes. Of course, since it has been -- it was published  
23 in 1980, it has been a while since I've taken a look at it.

24 Q Would you like to take a moment at least --

25 A Yes.

1 Q -- to read the summary and then if you want to look at  
2 anything else, I'd be glad to let you do that.

3 A Thank you.

4 (Pause.)

5 A Yes, I've read the summary.

6 Q Now, did this study conclude that between 120,000 and  
7 680,000 fibers were found per gram of wet lung tissue?

8 A I'm sorry, where are you referring to, please?

9 Q I believe that's in "Results" on Page 670 in the second  
10 column.

11 MR. JOHNSON: Excuse me, Counsel, could you please  
12 direct me to where you're referring?

13 MR. MANNINO: I said Page 670, "Results," second  
14 column. And also in the summary.

15 THE COURT: Is the summary --

16 MR. MANNINO: On Page 1.

17 THE COURT: Yes, and then Introduction, Method,  
18 Results. Are you asking him a question about the results?

19 MR. MANNINO: Yes, I'm asking him if between  
20 120,000 and 680,000 fibers were found per gram of wet lung  
21 tissue.

22 THE WITNESS: Well, of course, that's a different  
23 sample of lung tissue than we've been discussing here. This  
24 is wet lung tissue, not dry lung tissue, and the report --

25 THE COURT: Well, you didn't answer whether that's

1 what the report reports.

2 THE WITNESS: That's what the report says, yes.

3 THE COURT: Okay.

4 BY MR. MANNINO:

5 Q And they were dealing with wet lung tissue, is that  
6 correct?

7 A Yes, that's correct.

8 Q And it makes a difference, I think you're right, whether  
9 it's wet lung tissue or dry lung tissue, doesn't it?

10 A Yes.

11 THE COURT: Would you ask questions, Mr. Mannino?

12 MR. MANNINO: Thank you, your Honor.

13 BY MR. MANNINO:

14 Q Would you agree that because wet lung tissue contains  
15 water the number of fibers in a gram of wet tissue must be  
16 multiplied by about 10 in order to compare it accurately to  
17 dry tissue? And I refer you, sir, to page 670 --

18 A Yes.

19 Q Does that mean, Dr. Epstein, that according to Churg and  
20 Warnock and their study that between 1,200,000 and 6,800,000  
21 asbestos fibers per gram of dry lung tissue could be  
22 expected to be found in the general population?

23 A Yes, that's what they say in this paper. Interestingly  
24 enough, previous studies by Dr. Churg in particular showed  
25 quite a different pattern of deposition of asbestos fibers

1 in the lung. As a matter of fact, a later evaluation by Dr.  
2 Churg I believe said that the majority of fibers were of a  
3 totally different type than what he discussed here. So I  
4 think that his opinion has shifted quite considerably since  
5 1980.

6 Q But this particular report, getting back to my question,  
7 indicated that between 1,200,000 and 6,800,000 asbestos  
8 fibers per gram of dry lung tissue could be expected to be  
9 found in the general population; isn't that correct?

10 A This particular eight-year-old report says exactly that.

11 Q So 960,000 or more chrysotile fibers per gram of dry  
12 lung tissue might be expected to be found in my lungs, your  
13 lungs or anybody without an occupational exposure; isn't  
14 that correct?

15 A No, that's not correct. I disagree with that, as a  
16 matter of fact, and I believe that Dr. Churg disagrees with  
17 that today as well.

18 Q Has Dr. Churg published a paper that you can cite to us  
19 where he has repudiated this paper?

20 A I don't have the specific citations for Dr. Churg's work  
21 in front of me, but he has changed a number of the things  
22 that he has said in his more recent papers.

23 Q Where did his more recent papers appear? If you don't  
24 have a specific citation, could you tell us where they  
25 appear?



1 A They have appeared in the pulmonary literature, and  
2 since I read that fairly widely, I can't tell you exactly  
3 where it is without doing evaluations.

4 Q Sir, if this study is correct, the Churg and Warnock  
5 study, isn't it true that the structure probe report simply  
6 concludes that Mr. Gunsalus' asbestos exposure was  
7 consistent with anybody who walked around the streets of  
8 Philadelphia?

9 A No, I don't believe that that's correct. I don't accept  
10 these numbers because the more modern evaluations by --

11 THE COURT: I'm sorry, Dr. Epstein, but you really  
12 have to answer the question. If you can't answer it, say  
13 so, but your lawyer, the lawyer who represents the plaintiff  
14 has the right to bring out any explanation, but you have to  
15 on cross-examination answer the questions of the  
16 cross-examiner.

17 THE WITNESS: I'm afraid I'm going to need the  
18 question repeated.

19 BY MR. MANNINO:

20 Q If this study is correct and Mr. Gunsalus' tissue of his  
21 lung as reported in the structure probe report had no more  
22 asbestos fiber than any person walking around the streets of  
23 Philadelphia who wasn't exposed occupationally to asbestos;  
24 isn't that correct?

25 A No, I don't think that's even what this particular

1 article says. I think that this particular article --

2 THE COURT: That's all you were asked. Your answer  
3 is no. Would you continue?

4 THE WITNESS: Thank you.

5 Q Last question. I believe you said that Dr. Pietra did  
6 not have any tissue?

7 A I'm sorry, I didn't hear you.

8 Q I believe you said that Dr. Pietra when he did his  
9 studies did not have any tissue; is that correct?

10 A No, that's not correct.

11 Q What did he have?

12 A He had the paraffin blocks of the tumor, I believe.

13 Q Did he have tissue samples?

14 A Well, the tumor is tissue. I don't understand your  
15 question.

16 Q Can we agree that Dr. Pietra had two blocks, one which  
17 had tumor tissue and a second block which had three pieces  
18 of lung tissue?

19 A Yes, that's correct.

20 MR. MANNINO: That's all I have. Thank you very  
21 much, Doctor.

22 THE COURT: Redirect.

23 REDIRECT EXAMINATION

24 BY MR. JOHNSON:

25 Q Doctor, in expressing the opinions that you've expressed

1 here today, have you attempted to rely on a single study or  
2 more than one study?

3 A Well, it's obviously been more than one study. I have  
4 tried to put together all of the studies that I have read  
5 and all of my experience.

6 Q And do you accept every study that you read?

7 A I certainly do not.

8 Q Some studies in your view are too liberal?

9 A Well, I don't know exactly what you mean by liberal,  
10 but --

11 Q Well, let me make it clear.

12 THE COURT: Remember this is redirect, not cross,  
13 and try not to lead the witness.

14 MR. MANNINO: Yes. May we use the chart, your  
15 Honor?

16 THE COURT: Yes.

17 Now, what is your question?

18 BY MR. JOHNSON:

19 Q Yes, your Honor. Now that we have that chart up there,  
20 Doctor, is that chart taken from one of the Surgeon General  
21 reports?

22 A It's taken from the Surgeon General report with some  
23 altera -- some -- a portion left out.

24 Q Okay.

25 MR. JOHNSON: And, your Honor, I would like this --

1 this has been previously designated as Plaintiff's American  
2 Tobacco Exhibit 1A, which is the Surgeon General's report of  
3 1985.

4 THE COURT: Yes.

5 Q Doctor, at page -- may I approach the witness, your  
6 Honor?

7 THE COURT: If you want to give him a copy of it.  
8 I think he has -- I wonder if he has a copy of it.

9 MR. JOHNSON: I can just hand it to him, your  
10 Honor --

11 THE WITNESS: No, I do not.

12 BY MR. JOHNSON:

13 Q Now, Doctor, the actual chart that was used in the  
14 Surgeon General's report, is there an additional column?

15 A Yes, there is.

16 Q And what does that additional column show?

17 A That additional column shows that individuals who smoked  
18 more than one pack per day and who were asbestos exposed had  
19 a relative risk of 87.36 times the base line, so that would  
20 be about here on the chart.

21 Q And, Doctor, when the exhibit that is before the jury  
22 was prepared, why was the last column deleted?

23 A I asked that it be deleted.

24 Q Why?

25 A Because I felt that the studies that showed the much

1 higher incidence of cancer in people who had been smoking  
2 more than one pack a day was -- those studies were not done  
3 to my satisfaction epidemiologically and I felt it was  
4 unfair to present that type of information.

5 Q But of course that last column would indicate even a  
6 stronger influence on the part of cigarette smoking?

7 A That column would, yes.

8 Q Now, Doctor --

9 THE COURT: Are you finished with the chart?

10 MR. JOHNSON: Yes.

11 THE COURT: You can return to the witness stand.

12 BY MR. JOHNSON:

13 Q Doctor, as a result of the cross-examination by Mr.  
14 Mannino, has that caused you to change your opinion with  
15 regard to the cause of John Gunsalus' lung cancer?

16 A Definitely not.

17 Q Has it caused you to change your opinion with regard to  
18 the influence or effect that his asbestos exposure had on  
19 his lung cancer?

20 A It has not.

21 Q Just assuming for -- hypothetically, that there was no  
22 asbestos exposure in Mr. Gunsalus' life, what would be the  
23 most likely cause of his lung cancer?

24 A Cigarette smoking.

25 MR. MANNINO: Your Honor, I object unless we have

1 the phrase "to a reasonable degree of medical certainty."

2 Q Can you express that opinion to a reasonable degree of  
3 medical certainty?

4 A Yes. To a reasonable degree of medical certainty, the  
5 cause of his lung cancer would have been cigarette smoking  
6 alone had he not been exposed to asbestos.

7 MR. MANNINO: Pre '66 or post '66, I object again  
8 on that ground.

9 THE COURT: Well, you have to clarify if you're  
10 talking about before 1966.

11 BY MR. JOHNSON:

12 Q Would your answer be the same if I said pre '66 in terms  
13 of a substantial contributing factor?

14 A Yes.

15 Q Would it be the same post '66 in terms of a substantial  
16 contributing factor?

17 A Yes.

18 Q Doctor, does stabbing cause cancer?

19 A No, it does not.

20 Q Is it likely that cancer in Mr. Gunsalus would have  
21 developed from a stab wound in 1956, given what else you  
22 know about him?

23 A No, it is not likely that cancer would have developed  
24 under those circumstances.

25 Q Now, Mr. Mannino asked you about persons making choices

1 to use certain products. In your view, Doctor, as a lung  
2 physician, can a 10 or 11-year-old rationally choose himself  
3 to harm himself by using a dangerous product?

4 A No, that would be unreasonable.

5 Q Doctor, does fiber size make a difference in terms of  
6 the carcinogenic potential of asbestos?

7 A No one knows that answer with certainty. The answer is  
8 probably no.

9 Q Now, Doctor --

10 MR. MANNINO: Your Honor, I move to strike. No one  
11 knows it with certainty, the answer is probably no is not an  
12 expert opinion.

13 THE COURT: That's correct. Experts have to  
14 express their views with a reasonable degree of medical  
15 certainty. If it's unknown it's speculation. Therefore,  
16 unless the doctor changes his mind about whether no one  
17 knows, you can't pay attention to that aspect of his  
18 opinion.

19 MR. JOHNSON: Well, my point was, your Honor, that  
20 Mr. Mannino seemed to be -- suggested that it did make a  
21 difference or that it was known.

22 THE COURT: Well, you can argue to the jury later.  
23 Meanwhile, you ask questions of the witness.

24 MR. JOHNSON: Fine.

25 BY MR. JOHNSON:

1 Q In your view, Doctor, in 1988, would Dr. Churg hold the  
2 same view that was expressed in this paper --

3 THE COURT: Oh, Mr. Johnson, he can't speculate  
4 about Dr. Churg's views.

5 Q Are you aware of Dr. Churg's views today on this -- on  
6 the area that you've been questioned about?

7 A The specific question that I was asked, I don't know the  
8 answer to that question.

9 Q Okay.

10 With respect to -- your Honor, may I approach the  
11 witness so I can get back the '85 report?

12 THE COURT: Certainly.

13 Q Dr. Epstein, you were questioned concerning your  
14 testimony in the case of Hilferty versus Raymark Industries.  
15 Do you remember that?

16 A Yes.

17 Q And do you have that deposition in front of you?

18 A Yes, I do.

19 Q Doctor, you were questioned about your -- about the risk  
20 dropping of cancer of the lung on page 84. Do you remember  
21 that?

22 A Yes.

23 Q Now, two questions later on the same page, let me read  
24 you the question and answer and ask if that was your  
25 testimony at that time. "And if I understand you, the



1 decrease would be from approximately 400 chances per million  
2 per year as both a cigarette smoker and a person having been  
3 exposed to asbestos. From that 400 figure it would -- it  
4 could drop down to the risk of a cigarette smoker, strike  
5 that. A person with asbestos exposure alone," which you said  
6 was about 40. That was the lawyer talking.

7 "Answer: Yes, that's right. He would decrease his  
8 risk from about 200 down to 40." And you correct that a  
9 moment later to 400 down to 40.

10 Now, when you use the figure of 40 in answering  
11 these questions on page 84, does that refer to a non-exposed  
12 non-smoker, or to an exposed smoker?

13 A That is an asbestos-exposed nonsmoker.

14 Q Whose risk is approximately what?

15 A Five times the risk of the non-asbestos exposed  
16 nonsmoker.

17 Q So the base line in the earlier question was actually  
18 five times the normal risk; is that correct?

19 A Yes, that's correct.

20 MR. JOHNSON: May I approach the witness with the  
21 page that I wish to refer him to in the '85 report?

22 THE COURT: Yes.

23 BY MR. JOHNSON:

24 Q Doctor, I have referred you to the summary and  
25 conclusions on the chapter in the '85 report, the Surgeon

1 General on asbestos-exposed workers.

2 A Yes.

3 MR. MANNINO: Could you give us a page number,  
4 please?

5 MR. JOHNSON: Could you give us that, Doctor? I  
6 don't have it in front of me.

7 THE WITNESS: The date?

8 THE COURT: The page number.

9 THE WITNESS: Oh, page number is 271.

10 BY MR. JOHNSON:

11 Q All right. And are there three conclusions set out in  
12 that report concerning the interrelationship between  
13 cigarette smoking and asbestos?

14 A Yes.

15 Q What's the conclusion?

16 A Cigarette smoking and asbestos exposure appear to have  
17 an independent and additive effect on lung function decline.  
18 Nonsmoking asbestos workers have decreased total lung  
19 capacity. Cigarette smoking asbestos workers develop both  
20 restrictive lung disease and chronic obstructive lung  
21 disease, but the -- I'm sorry, I was reading the wrong  
22 paragraph. I apologize.

23 Q I thought you were. Number one.

24 A Asbestos exposure can increase the risk of developing  
25 lung cancer in both cigarette smokers and nonsmokers. The

1 risk in cigarette smoking asbestos workers is greater than  
2 the sum of the risks of the independent exposures and is  
3 approximated by multiplying the risks of the separate  
4 exposures.

5 Q Do you agree with that statement?

6 A Yes, I do.

7 Q What about the second conclusion?

8 A The risk of developing lung cancer in asbestos workers  
9 increases with increasing number of cigarettes smoked per  
10 day and increasing cumulative asbestos exposure.

11 Q Do you agree with that conclusion, Doctor?

12 A Yes, I do.

13 Q And the third conclusion, Doctor?

14 A The risk of developing lung cancer declines in asbestos  
15 workers who stop smoking when compared with asbestos workers  
16 who continue to smoke. Cessation of asbestos exposure may  
17 result in a lower risk of developing lung cancer than  
18 continued exposure, but the risk of developing lung cancer  
19 appears to remain significantly elevated even 25 years after  
20 cessation of exposure.

21 Q Do you agree with that conclusion, Doctor?

22 A Yes, I do.

23 Q Doctor, -- may I have just one moment, your Honor?

24 (Pause in proceedings.)

25 MR. JOHNSON: Your Honor, no further questions of

1 this witness.

2 MR. MANNINO: May I have two, your Honor?

3 THE COURT: Recross, yes.

4 MR. MANNINO: Thank you.

5 BY MR. MANNINO:

6 Q Isn't it true that that last column which was struck  
7 from the Surgeon General's report was based on a study by  
8 Irving Selikoff?

9 A Yes, that's correct.

10 Q And you didn't think it was reliable?

11 A I didn't think that particular number was reliable,  
12 that's correct.

13 Q Three questions. One more. Isn't it true lung cancer  
14 can arise from scars?

15 A Just scars in general or --

16 Q Scars in the lung or of the lung.

17 A Well, I'm afraid I can't answer the question the way you  
18 ask it because scars in the lung are several different  
19 types.

20 Q Is it associated with fibrosis?

21 A Such as that found in asbestosis?

22 Q Yes.

23 A Yes.

24 Q Thank you. Is it also associated with scarring of the  
25 lungs from other things besides asbestos-related fibrosis?

1 A Possibly tuberculosis but not stab wounds.

2 Q Do you know whether Mr. Gunsalus ever tested positive  
3 for tuberculosis?

4 A I have no evidence that he ever had tuberculosis.

5 Q Do you know if he tested positive --

6 A I don't recall.

7 Q Do you remember seeing a medical record of that?

8 A I don't recall seeing that particular medical record.

9 MR. MANNINO: No further questions, your Honor.

10 Thank you, Dr. Epstein.

11 THE COURT: I trust there's no re-redirect, and  
12 that we can --

13 MR. JOHNSON: I think we can excuse the doctor,  
14 your Honor.

15 THE COURT: All right. You're excused, thank you.

16 I'll also excuse you, unless -- do you have some  
17 exhibits you want to offer at this time, Mr. Johnson,  
18 briefly, or should we --

19 MR. JOHNSON: Yes, I would move the exhibits that  
20 I've introduced through this witness into the record.

21 THE COURT: Could you number them for me so we have  
22 the record?

23 MR. JOHNSON: Sure. The '85 report, I believe is  
24 1a.

25 THE COURT: 1A.

1 MR. JOHNSON: Against the American Tobacco Company.

2 THE COURT: Yes.

3 MR. JOHNSON: I've identified the three drawings  
4 the doctor did as 600, 601 and 602.

5 THE COURT: All right.

6 MR. JOHNSON: And the -- if I remember correctly,  
7 the chart is 34 General --

8 THE COURT: I thought it was 35.

9 MR. JOHNSON: I stand corrected. And also the  
10 doctor's curriculum vitae and expert reports, 15 and 15A.

11 THE COURT: I'll defer ruling on that.

12 I will now excuse the jury for the day.

13 It's one of the days when we're -- it's possible to excuse  
14 you at the time you'd like to be excused. We're moving  
15 along nicely and I would ask you to return at 9:30 tomorrow  
16 morning to the jury room, and I want to tell you, as I'm  
17 going to tell you every night, but I really mean it and I  
18 want you to remember and pay attention. You've heard the  
19 openings and you've heard one witness. There are a lot more  
20 witnesses or some more witnesses for the plaintiff and some  
21 for the defendant. You're not in a position to do anything  
22 but have an open mind, and you may not discuss this with  
23 your family or friends or even with each other, and please  
24 don't listen, pay attention to any news media report of this  
25 case or any other case.

1 And with that I wish you good evening.

2 (Jury out of the courtroom at 4:18 o'clock p.m.)

3 THE COURT: I just want to discuss briefly the  
4 offers in evidence. 1A, the Surgeon General's report, I  
5 take it you're offering only the passages that were  
6 introduced. I don't suppose there's any proffer of the  
7 entire report, because I wouldn't intend to send it to the  
8 jury so they could leaf through it.

9 MR. JOHNSON: Chapter six is the section that  
10 covers asbestos-exposed individuals. The rest has got  
11 nothing to do with this case in particular.

12 THE COURT: Well, at this --

13 MR. JOHNSON: And he read portions from chapter  
14 six.

15 THE COURT: Well, at this point I'll admit the  
16 portions that were read in the absence of objection. I'll  
17 also admit P-35. I don't believe the diagrams someone uses  
18 to explain their testimony become exhibits but we certainly  
19 have marked them for identification, and the curriculum  
20 vitae in the absence of objection I don't mind admitting,  
21 but you can't introduce your own expert report. You had  
22 your expert here to testify. The defendants can introduce  
23 it if they want it -- you know, if they use it in cross  
24 which they didn't seem to do very extensively, then they can  
25 introduce it. But if you think that under the Rules of

1 Evidence you can do that, I want you to brief it.

2 MR. MANNINO: Your Honor, we have no problem with  
3 the CV. We agree with your Honor's views on the expert  
4 reports. We have objections to the Surgeon General's  
5 reports. I think if an expert has used a particular segment  
6 or -- you don't use the whole chapter, you use the segment,  
7 and I believe that that would be properly admissible.

8 THE COURT: Well, even when he uses learned  
9 treatises you don't introduce the treatise, you just allow  
10 him to use it.

11 I'm sorry, did I interrupt you? What is the CV?  
12 Is that -- you gave a number for that. I forget what it  
13 was.

14 MR. JOHNSON: 15, I believe, your Honor.

15 THE COURT: Okay.

16 (Plaintiff's Exhibit 1A, chapter six, P-15 and P-35  
17 received in evidence.)

18 MR. MANNINO: And, your Honor, finally we agree on  
19 the exhibits. One of the reasons we didn't exchange, Mr.  
20 Johnson and I had an agreement that demonstrative aids  
21 wouldn't go to the jury so therefore they didn't have to be  
22 marked. So I mean it's marked for identification, but it  
23 shouldn't go to the jury.

24 THE COURT: Yes, they have to be marked, and I  
25 don't have any objection to their use, it's just that they



1 don't become exhibits and go to the jury.

2           MR. JOHNSON: My experience is that whatever goes  
3 to the jury usually isn't that important anyway, so, as long  
4 as they're part of the record.

5           THE COURT: Well, I should caution all of you. I  
6 think I did this at the pretrial. The fact that something  
7 is -- even something admitted as an exhibit doesn't  
8 necessarily go to the jury. I retain the discretion to  
9 decide what goes to the jury at the end of the case. And,  
10 Mr. Johnson, you're right. Sometimes I just decide nothing  
11 goes to the jury. But every once in a while I have a lawyer  
12 who introduces 25 photographs and never shows them to the  
13 jury and then seems to be in complete shock with the thought  
14 they won't be in the jury room, so generally speaking if you  
15 want the jury to see something, it's better to do it during  
16 the trial.

17           Do you have straightened out for tomorrow who the  
18 witnesses are going to be, and --

19           MR. MANNINO: We understand Dr. Bresnitz and Dr.  
20 Fischkoff.

21           THE COURT: And you have some agreement on at least  
22 the documents that the plaintiff is going to use in that  
23 connection.

24           MR. JOHNSON: I believe we do, your Honor.

25           THE COURT: Well, try and see if you can work it

1 out. You do not have to -- Mr. Mannino, you do not have to  
2 advise Mr. Johnson of your cross, so you don't have to  
3 provide him with the documents you're going to use in cross.  
4 But you do have to give it to him before you use them. You  
5 don't have to supply them to the witness, but he has a right  
6 to look at it and make sure you're not taking something out  
7 of context.

8 MR. MANNINO: Yes, your Honor.

9 THE COURT: Okay, good afternoon.

10 MR. MANNINO: Thank you, your Honor.

11 (Court adjourned at 4:25 o'clock p.m.)

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